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Publication 0E13-01-1-1224



FINAL REPORT
ESTABLISHMENT OF RELIABILITY AND MAINTAINABILITY
DATA BANK FOR SHIPBOARD MACHINERY

Volume II

March 1973

Prepared for NAVAL SHIP SYSTEMS COMMAND WASHINGTON, D. C. under Contract N00024-72-C-5388



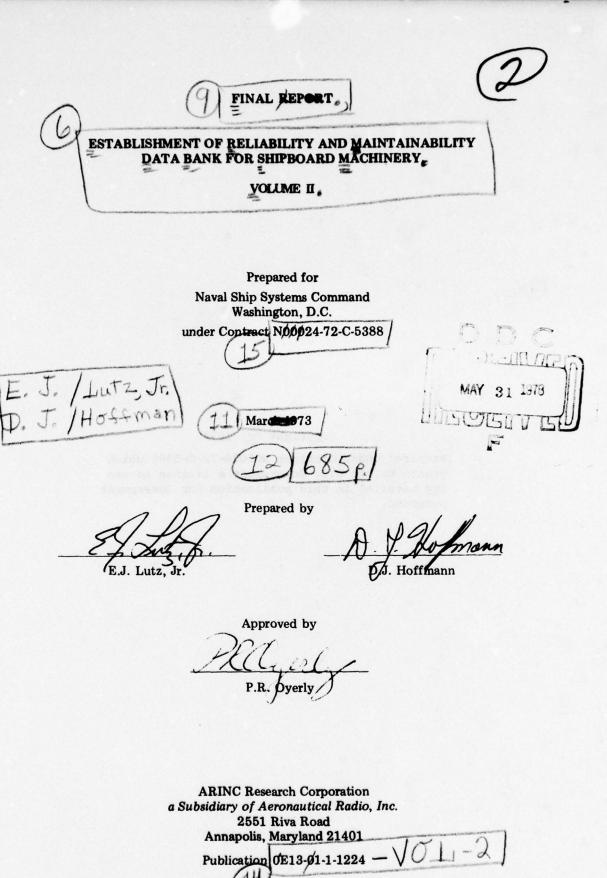
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along with the basic equipment ident	tification and s	ource dats, are conveniently
displayed on format sheets, which as	re compiled in V	olume II in Component
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ABSTRACT

This report presents (in Volume I) the procedures and techniques established by ARINC Research and used to analyze corrective-maintenance data on shipboard equipments and to develop reliability and maintainability indices. These indices, along with the basic equipment identification and source data, are conveniently displayed on format sheets, which are compiled in this volume in Component Identification Number (CID) sequence and by Generic Groups.

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CHAPTER ONE

INTRODUCTION

ARINC Research Corporation established procedures and techniques for use in analyzing corrective-maintenance data on shipboard equipments and in developing reliability and maintainability indices. The procedures and techniques are presented and explained in Volume I. The data sheets, with equipment identification, source data, and reliability and maintainability (R&M) indices, are presented in this volume in CID (component identification) sequence and by generic groupings, i.e., equipments of similar type and rating.

Equipments of previous ARINC Research studies which were still of interest and for which usable indices had been developed are included with the newly developed sheets in both CID sequence and as Generic Groupings. The "Remarks" sections of these sheets indicate the study from which the indices were taken. In the situation where identical CIDs appear, Appendix A should be investigated to determine the exact equipment configuration for which the indices were developed.

CHAPTER TWO

COMPONENT-IDENTIFICATION (CID) SEQUENCE

2.1 SELECTION OF FORMAT

The Shipboard Machinery Reliability and Maintainability Data Bank Presentation Format was selected for its adaptability to presenting mechanical-equipment data, ease of updating, and capability to be microfilmed for storage purposes.

2.2 DESCRIPTION OF FORMAT

This section describes the data-bank format. It gives a detailed explanation of the type of information to be provided and the definition of the Figures of Merit (FOM). The procedures for computing the FOMs are described in Chapter Five, Section 5.5, of Volume I.

2.2.1 Equipment Identification

Equipment identifiers are as follows:

Noun Name. The service-application descriptor assigned to the equipment as taken from the Equipment Identification Code (EIC) directory.

General Description. The equipment's pertinent design specifications, as taken from the Ship Part Control Center (SPCC) Deck E Card Index "A" entry.

CID/APL Number(s). The Component Identification (CID) Number/Allowance Part List (APL) Number assigned to the specific equipment. In the case of a system comprising many CID/APLs, the primary equipment/system CID will be listed. The generic grouping will have all the CIDs comprising the group identified.

Federal Stock Number The Federal Stock Number assigned to the CID/APL Number(s).

Equipment Identification Code. The seven-digit Equipment Identification Code (EIC), as taken from the EIC Directory, used to code the equipment in reporting maintenance data. Both the Generation I and Generation III MDCS EICs are shown where possible.

Manufacturer. The manufacturer of the equipment as identified in the CID/APL number.

2.2.2 Basic Data

The following are the basic data elements used in the development of the R&M indices:

Ship Population. The specific hull designations and numbers of the ships on which the equipment is located as identified by the SPCC Deck "E" card for the appropriate CID/APL number and service-application noun name.

Equipment Population/Ship. The number of units on each ship as listed in the ship COSAL and the SPCC Deck "E" card for the appropriate CID/APL number and service application.

Total Equipment Population in Data Base. The total number of equipments in the ship population that comprises the data base for each CID.

<u>Data-Assessment Period</u>. The period of time comprising the data period: beginning month/year - ending month/year - number of months.

Utilization Factors (K_U). Required for equipments that do not have individually reported operating time. The factor is the ratio of the equipment's operating time to some other known time base such as ship steaming hours, clock hours, or calendar hours. The Application Code preceding the utilization factor indicates what time base is being used: S = Steaming Hours; H = Calendar/Clock Hours. The Application Code can be followed by up to three utilization factors - A, B, and C. In the cases of Application Code "S", all three utilization factors are used. A = percent of ship steaming hours under way (SHUW), B = percent of ship steaming hours not under way (SHNW), and C = percent of ship cold iron hours (CI). For the Application "C", the single utilization factor "A" will be used; it equals the percent of calendar or clock hours the equipment is in operation.

Total Equipment Operation Time. The total time all equipments selected within the design category operate. The method of computing this time is shown in Chapter Five, Section 5.4, Vol. I.

Total Number of Failures (CM_f). The occurrence of any unsatisfactory operation of an equipment that results in the equipment's forced shutdown or failure to start up. The total number of failures for a design application is derived by summing the individual failures of the equipments on the ships being used to develop the FOM.

Total Number of Corrective-Maintenance Events (CM). Any unscheduled maintenance performed on an equipment. The total number of corrective-maintenance events is derived by summing the individual corrective-maintenance events, including failures, on the equipments that comprise the population sample being used to develop the FOM.

Total CM_f Repair Man-Hours. The total number of man-hours required to repair failures -- obtained by summing the maintenance man-hours from all corrective-maintenance events resulting only from the equipment failures.

Total CM Repair Man-Hours. The sum of the maintenance man-hours from all corrective-maintenance events, including those events resulting from equipment failure.

Maintenance Factor. A ratio of men to maintenance events that has been derived from Fleet survey and data analysis for some equipments; used to convert equipment maintenance man-hours to active maintenance time. In this study, where no specific maintenance factor exists, 0.67 is used.

2.2.3 Reliability Indices

Reliability indices are as follows:

Mean Time Between Failures (Forced Shutdown Corrective Maintenance)
MTBCM_f. The average equipment operating time between correctivemaintenance events resulting from forced equipment shutdowns, i.e.,
failures. The 90-percent confidence interval will be based on the
assumption that the time between failures follows an exponential
distribution.

Mean Time Between Corrective Maintenance - MTBCM. The average equipment operating time between all unscheduled corrective-maintenance events. The 90-percent confidence interval will be used on the assumption that the time between corrective maintenance follows an exponential distribution.

2.2.4 Maintainability Indices

Maintainability indices are as follows:

Mean Time to Repair (Failures) Forced-Shutdown Corrective Maintenance - MTTR_f. Mean time to repair an equipment malfunction that resulted in a forced equipment shutdown. The index is a measure of the hours of active maintenance required to repair an equipment failure; it does not include logistics or administrative time.

Median Corrective-Maintenance Man-Hours $(\mathrm{CM_f})$ - $\mathrm{MCMM_f}$. The median number of man-hours required to perform corrective maintenance resulting from forced-shutdown failures only. This index is selected to aid in providing a better indicator of the distribution of maintenance man-hours. The literature indicates that maintenance man-hour distributions are most often log-normal; therefore, the median is often a more applicable measure of the central tendency.

Maximum Observed Man-Hours (CM_f) . The highest reported value of the corrective-maintenance man-hours resulting from forced-shutdown failure.

Mean Corrective-Maintenance Man-Hours $(CM_{\underline{f}})$ - $\overline{MCMM_{\underline{f}}}$. The average man-hours to perform all corrective maintenance resulting from forced-shutdown failure.

Variance (CM_f). The variance of the forced-shutdown corrective-maintenance event man-hours -- included to indicate the concentration of the individual values about the mean value.

Mean Time to Repair (Corrective Maintenance) - MTTR $_{cm}$. Mean time to repair these equipments for all corrective-maintenance events. Same definition as MTTR $_{f}$, but includes all unscheduled corrective maintenance as well as maintenance resulting from equipment failures.

Median Corrective-Maintenance Man-Hours (CM) - MCMM $_{
m CM}$. The median number of man-hours required to perform all maintenance. This index is provided for the same reasons as MCMM $_{
m f}$ above.

Maximum Observed Man-Hours (CM). The highest reported value of all corrective-maintenance-event man-hours.

Mean Corrective-Maintenance Man-Hours - MCMM cm. The average man-hours to perform all corrective maintenance.

Variance (CM). The variance of the corrective-maintenance-event man-hours for all corrective-maintenance events -- included for the reason stated above for CM_f.

Indicated Distribution of Maintenance Man-Hours. The probable distribution of maintenance man-hour times as reported for this type of equipment. A check in the space by one of the distributions indicates that the analysis procedure described in Chapter Five, Section 5.5.2, of Volume I has shown the observed distribution to be closest to this theoretical distribution and within

the critical value for the test. The absence of checks in any of the spaces indicates that insufficient information was available to make a distribution analysis, i.e., less than 50 correctivemaintenance events.

2.2.5 Individual Component Identification (CID) Data Sheets

The following pages comprise the Data Bank in CID numerical sequence. Divider pages are inserted as a convenience in locating major groupings, i.e., Pumps, Turbines, Motors, etc. Where duplicate CIDs appear, a note in the "Remarks" section of the data sheet indicates the previous study for which the R&M indices were developed and Appendix A shows the detailed breakdown of the configuration analyzed by that study.

	5 Aviation Serv		Committee of the control of the cont
General Description: Pump	CTFGL 1100GPM	111PSI 3555RPM Md	VLT
CID/APL Number(s): 016	000318	_ Federal Stock Number:N	one Dwg 08-401-158
Equipment Identification C	ode: <u>AJ27/AJ38</u>		All told to anything
Technical Manual: 347-	2559		Russia systemi
Manufacturer: 92392 A	llis Chalmers M	fg. Co. West Allis Plan	nt - Milwaukee
		nde Date	
		asic Data	
Ship Population:CVA	61, 62;	Equip. Population/Ship:	8 ea/CVA
Equip. Population in Data	Base:16	Data Assessment Period:	7/1/67 - 6/30/69
Utilization Factors: S: A	= 0.04, B = 0.0	005, C = 0.001	service to a service of the service
Total Equip. Operating Tim	ne (hours):	5881	
Total Number of: Failur	res (CM _f):3	Corrective Maintenance Event	s (CM):
Total CM. Repair Man-Hou	rs: 168	Total CM Repair Man-Hours:	272
Maintenance Factors:	0.6	57	
MTBCM _f : 1960 90% Confidence Inter- Upper Limit: Lower Limit:	val 7192	90% Confidence Interval Upper Limit:	1790
Corrective Maintenance — (Maintai	nability Indices Corrective Maintenance — (Al	
Failure Events Only)	roiceu onuccown	(-1	
$MTTR_{\mathbf{f}}$: 37.3		MTTR _{cm} : 25.9	
MCMM _f : 18.0		MCMM _{cm} : 24.0	
Max. Observed MH: _	134	Max. Observed MH:	134
MCMM _f : _56.0		MCMM _{cm} :38.9	
Variance: 4564		Variance: 1909	Lance Caroline (N. 17

Noun Name: Pump, Main Feed B General Description: Pump CTFGL,	, 490 GPM 65 PSI 1160 RPM MD VLT
CID/APL Number(s): -016000361	Federal Stock Number: None* (1)
Equipment Identification Code: Technical Manual: 347-3253	ZQ02000/F308100
	2
Manufacturer: Allis Chalmers Mig.	Co., West Allis Plant, Milwaukee 92392
	Basic Data
Ship Population: DLG 8, 9, 10, 11,	14 Equip. Population/Ship: 6
Equip. Population in Data Base:	30 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S:A = 0.60; B =	0.37; C = 0.0
Total Equip. Operating Time (hours):	185164
Total Number of: Failures (CM _f):	43 Corrective Maintenance Events (CM): 102
Total CM _f Repair Man-Hours: 472	Total CM Repair Man-Hours: 1912
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintens	
(Forced Shutdown Corrective Maintena MTBCM _f : 4306 90% Confidence Interval Upper Limit: 5642	Mean Time Between Corrective Maintenance ance) MTBCM: 1815 90% Confidence Interval Upper Limit: 2154
(Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM:1815
(Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM: 1815 90% Confidence Interval Upper Limit: 2154 Lower Limit: 1540 Maintainability Indites
(Forced Shutdown Corrective Maintense MTBCMf: 4306 90% Confidence Interval Upper Limit: 5642 Lower Limit: 3339 Corrective Maintenance — (Forced Shutdow Failure Events Only)	Mean Time Between Corrective Maintenance ance) MTBCM: 1815 90% Confidence Interval Upper Limit: 2154 Lower Limit: 1540 Maintainability Indites Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintens MTBCM _f : 4306 90% Confidence Interval Upper Limit: 5642 Lower Limit: 3339 Corrective Maintenance — (Forced Shutdow Failure Events Only)	Mean Time Between Corrective Maintenance ance) MTBCM: 1815 90% Confidence Interval Upper Limit: 2154 Lower Limit: 1540 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.5
(Forced Shutdown Corrective Maintense MTBCMf: 4306 90% Confidence Interval Upper Limit: 5642 Lower Limit: 3339 Corrective Maintenance — (Forced Shutdow Failure Events Only) MTTRf: 7.3 MCMMe: 3.0	Mean Time Between Corrective Maintenance ance) MTBCM: 1815 90% Confidence Interval Upper Limit: 2154 Lower Limit: 1540 Maintainability Indites MCMMcm: 12.5 MCMMcm: 5.0
(Forced Shutdown Corrective Maintense MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintense MTBCM $_{\rm f}$: 4306 90% Confidence Interval Upper Limit: $\frac{5642}{3339}$ Lower Limit: 3339 Corrective Maintenance — (Forced Shutdow Failure Events Only) MTTR $_{\rm f}$: $\frac{7 \cdot 3}{3 \cdot 0}$ MCMM $_{\rm f}$: 3.0 Max. Observed MH: 120.0	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintense MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM: 1815 90% Confidence Interval Upper Limit: 2154 Lower Limit: 1540 Maintainability Indites MCMMcm: 12.5 MCMMcm: 5.0
(Forced Shutdown Corrective Maintense MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintense MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM:

Noun Name: Pump, Main Condense General Description: Pump CTFGL, 28	8500 GPM 31 PSI 900 RPM TRD AXFL
CID/APL Number(s): 016020014	Federal Stock Number: None* (1)
	H05000/FB03000
Technical Manual: 347-0940	per fett den lettere
Manufacturer: Warren Pumps, Inc.	63857
	Basic Data
Ship Population DD 697,709,716,718,72	23 *(2) Equip. Population/Ship: 2
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.05; B =	0.50; C = 0.00
Total Equip. Operating Time (nours).	10821
Total Number of: Failures (CM _f): 35	Corrective Maintenance Events (CM): 88
Total CM _f Repair Man-Hours: 250	Total CM Repair Man-Hours:967
Maintenance Factors:0.	. 67
(Forced Shutdown Corrective Maintenance	
(Forced Shutdown Corrective Maintenance MTBCM _f : 6023 90% Confidence Interval	MTBCM: 2396 90% Confidence Interval
(Forced Shutdown Corrective Maintenance MTBCM _f : 6023 90% Confidence Interval Upper Limit: 8148	90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Maintenance MTBCM _f : 6023 90% Confidence Interval Upper Limit: 8148	MTBCM: 2396 90% Confidence Interval Upper Limit: 2882
(Forced Shutdown Corrective Maintenance MTBCM _f : 6023 90% Confidence Interval Upper Limit: 8148 Lower Limit: 4542	90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Maintenance MTBCM _f :	90% Confidence Interval Upper Limit: 2882 Lower Limit: 2007
(Forced Shutdown Corrective Maintenance MTBCM _f :6023 90% Confidence Interval Upper Limit:8148 Lower Limit:4542 Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 2396 90% Confidence Interval Upper Limit: 2882 Lower Limit: 2007 Intainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance MTBCM _f :6023 90% Confidence Interval	MTBCM: 2396 90% Confidence Interval Upper Limit: 2882 Lower Limit: 2007 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.3
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
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MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:

CONTINUATION SHEET

SHIPBOARD MACHINERY RELIABILITY AND MAINTAINABILITY DATA BANK

Noun Name: Pump, Main Condenser,	S.W. Circulating	
General Description: Pump CTFGL, 2850	00 GPM 31 PSI 900 RPM TRD AXFL	
CID/APL Number(s): 016020014	Federal Stock Number:	
Equipment Identification Code: ZH05	5000/FB03000	
Manufacturer:		
В	Basic Data	
Ship Population: DD 876, 877, 880, 881*	* (1) Equip. Population/Ship:	
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30)/69
Utilization Factors:		
Total Equip. Operating Time (hours):		
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):	
Total CM ₆ Repair Man-Hours:	Total CM Repair Man-Hours:	
Maintenance Factors:		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:	
Lower Limit:	Lower Limit:	
Maintai	inability Indices	
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)	
MTTR _f :	MTTR _{cm} :	
MCMM _f :	MCMM _{cm} :	
Max. Observed MH:	Max. Observed MH:	
MCMM _f :	MCMM _{cm} :	
Variance:	Variance:	
Indicated Distribution (s): Exponential	Normal Log Normal _	_
*REMARKS: (1) 871, 875, 884, 885, developed for ARINC Research Pub	ooo, ooo **Reliability indices	
December 1971	110001011 755-02-5-1175, dated	

CID/APL Number(s): 016020286	00 GPM 13 PSI 1250 RPM TRD AXFL Federal Stock Number: None *(1)
Equipment Identification Code:	ZH05000/FB03000
Manufacturer: 63857 Warren Pumps	Inc.
	Basic Data
Ship Population: LSD 31, 33, 34, 35	Equip. Population/Ship: 2
Equip. Population in Data Base:	8 Data Assessment Period: 7/1/67 - 6/30/6
	= 0.50; C = 0.0
Total Equip. Operating Time (hours):	24073
Total Number of: Failures (CM _f):	5 Corrective Maintenance Events (CM):13
Total CMc Repair Man-Hours: 10	Total CM Repair Man-Hours:290
Maintenance Factors:	Total CM Repair Man-Hours: 290
Mean Time Between Failure (Forced Shutdown Corrective Maintenan	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenan MTBCM _f : 4803 90% Confidence Interval Upper Limit: 12214 Lower Limit: 2289	Mean Time Between Corrective Maintenance ce) MTBCM: 1847 90% Confidence Interval Upper Limit: 3130
Mean Time Between Failure (Forced Shutdown Corrective Maintenan MTBCM _f : 4803 90% Confidence Interval Upper Limit: 12214 Lower Limit: 2289 M Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenan MTBCM _f : 4803 90% Confidence Interval Upper Limit: 12214 Lower Limit: 2289 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.4	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenan MTBCM _f : 4803 90% Confidence Interval Upper Limit: 12214 Lower Limit: 2289 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.4 MCMM _f : 1.0	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenan MTBCM _f : 4803 90% Confidence Interval Upper Limit: 12214 Lower Limit: 2289 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.4 MCMM _f : 1.0 Max. Observed MH: 6	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenan MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenan MTBCM _f : 4803 90% Confidence Interval Upper Limit: 12214 Lower Limit: 2289 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.4 MCMM _f : 1.0 Max. Observed MH: 6	Mean Time Between Corrective Maintenance ce) MTBCM:

ID/API Number(a). 016020201	0 GPM 13 PSI 900RPM TD AXFL Federal Stock Number: None - (R-311)
71101	5000/FB03000
squipment identification code.	
Fechnical Manual: 347-2448	
Manufacturer: 03057 warren rumps inc	
1	Basic Data
DD 938, 941, 942, 94	45, *(1) Equip. Population/Ship: 2 Data Assessment Period: 7/1/67 - 6/30/69
South Population:	Data Assessment Poriod: 7/1/67 6/30/60
squip. Population in Data Base: $S: A = 0.25: B = 0$	Data Assessment Period: $7/1/07 = 0.30/09$
Total Equip. Operating Time (hours): 6350	02
Total Number of Feilures (CM):	Corrective Maintenance Events (CM):21
가다면 가게 하는 이 보는 데 내가 마음이 되었다. 하는 사람이 되었다면 하는 것이 없는데 그렇게 되었다면 하는데 하다 때문에 되었다.	
Total CM _f Repair Man-Hours:56	Total CM Repair Man-Hours:614
Maintenance Factors:0.6	7
(Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 12,700 90% Confidence Interval Upper Limit: 32218	MTBCM: 3024 90% Confidence Interval Upper Limit: 4511
(Forced Shutdown Corrective Maintenance) MTBCM _f : 12,700 90% Confidence Interval	MTBCM: 3024 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 12,700 90% Confidence Interval Upper Limit: 32218 Lower Limit: 6038	MTBCM: 3024 90% Confidence Interval Upper Limit: 4511
(Forced Shutdown Corrective Maintenance) MTBCM _f : 12,700 90% Confidence Interval Upper Limit: 32218 Lower Limit: 6038	MTBCM:3024 90% Confidence Interval Upper Limit:4511 Lower Limit:2100
(Forced Shutdown Corrective Maintenance) MTBCM _f : 12,700 90% Confidence Interval Upper Limit: 32218 Lower Limit: 6038 Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 3024 90% Confidence Interval Upper Limit: 4511 Lower Limit: 2100 ainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 12,700 90% Confidence Interval Upper Limit: 32218 Lower Limit: 6038 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 7.4	MTBCM: 3024 90% Confidence Interval Upper Limit: 4511 Lower Limit: 2100 ainability Indices Corrective Maintenance — (All Events) MTTRom: 19.5
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 3024 90% Confidence Interval Upper Limit: 4511 Lower Limit: 2100 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 19.5 MCMM _{cm} : 3.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :12,700 90% Confidence Interval	MTBCM: 3024 90% Confidence Interval Upper Limit: 4511 Lower Limit: 2100 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 19.5 MCMM _{cm} : 3.0 Max. Observed MH: 214
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 3024 90% Confidence Interval Upper Limit: 4511 Lower Limit: 2100 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 19.5 MCMM _{cm} : 3.0 Max. Observed MH: 214

General Description: Pump CTFGL, 2200	GPM 13 PSI 785 RPM TD AXFL	
CID (API Number(s): 016020490	Federal Stock Number: None (1)
Equipment Identification Code: ZHO500	00/FB03000	E WHAT AND S
Technical Manual: 347-3146		
Manufacturer: 63857 Warren Pumps Inc.		om/antend/L
	Anda Data	
	Basic Data	
Ship Population: $DLG 5, 6, 7, 8, 9, 11$	12, *(2) Equip. Population/Ship:	2
Equip. Population in Data Base:32	Data Assessment Period: 7/1/	67 - 6/30/6
Ship Population: DLG 5, 6, 7, 8, 9, 11 Equip. Population in Data Base: 32 Utilization Factors: S: A = 0.60; B = 0.	55; C = 0.0;	Location Co. J.
Total Equip. Operating Time (hours): 24353	32	mark pend
Total Number of: Failures (CM _f): 14	Corrective Maintenance Events (CM)	:31
	Total CM Repair Man-Hours:136	50
Maintenance Factors: 0.67	lotal CM Repair Man-Hours	and some Extreme
Mean Time Between Failure	Mean Time Between Corrective Mair	ntenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 17395 90% Confidence Interval Upper Limit: 28849	MTBCM: 7856 90% Confidence Interval	17
(Forced Shutdown Corrective Maintenance) MTBCM _f : 17395	MTBCM: 7856 90% Confidence Interval	17
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 7856 90% Confidence Interval	17 19
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 7856 90% Confidence Interval Upper Limit: 1084 Lower Limit: 581 inability Indices Corrective Maintenance — (All Event	17 19
(Forced Shutdown Corrective Maintenance) MTBCM _f : 17395 90% Confidence Interval	MTBCM: 7856 90% Confidence Interval Upper Limit: 1081 Lower Limit: 581 inability Indices Corrective Maintenance — (All Event	17 19
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 7856 90% Confidence Interval Upper Limit: 1084 Lower Limit: 581 inability Indices Corrective Maintenance — (All Event	17 19 ts)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 7856 90% Confidence Interval Upper Limit: 1084 Lower Limit: 581 inability Indices Corrective Maintenance — (All Event MTTR _{cm} : 29.2 MCMM _{cm} : 4.5 Max. Observed MH: 72	17 19
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 7856 90% Confidence Interval Upper Limit: 1084 Lower Limit: 581 inability Indices Corrective Maintenance — (All Event	17 19 ts)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:	17 19 ts)

Noun Name: Pump, Main Condenser, S.	W. Circulating
General Description: Pump CTFGL, 18500 G	
CID/APL Number(s): 016020503	Federal Stock Number: None *(1)
Equipment Identification Code: ZH05000	/FB03000
Technical Manual: 347-3518	
Manufacturer: 63857 Warren Pumps Inc.	
Basic	c Data
Ship Population: DDG 2,5,6,7,8,9, *(2)	Equip. Population/Ship: 2
Equip. Population in Data Base: 28	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.10; B = 0.52;	Equip. Population/Ship: 2 Data Assessment Period: 7/1/67 - 6/30/69 C = 0.0;
Total Equip. Operating Time (hours): 102570	
	Corrective Maintenance Events (CM): 25
Total CMc Repair Man-Hours: 114	Total CM Repair Man-Hours: 252
90% Confidence Interval Upper Limit: 18900 Lower Limit: 6046	MTBCM: 4103 90% Confidence Interval Upper Limit: 5898 Lower Limit: 2937
Maintainal	pility Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Table Control of the
MTTR _f : 7.6	$\mathbf{MTTR_{cm}} : \frac{6.7}{3.0}$
MCMM _f : 3.0	MCMM _{cm} : 2.0
Max. Observed MH: 60	Max. Observed MH:62
MCMM _f : 11.4	MCMM _{cm} : 10.1
Variance: 320	Variance: 287
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) (R-607 Rev F 24 Vertic	
(2) 12, 14, 17, 18, 19, 20, 24, 21**	*Reliability indices developed for
ARING Research Publication 933-02-	3-1153, dated December 1971

	apment identification
Noun Name: Pump, Condensate,	SSTG
General Description: Pump CTFGL,	20 GPM 70 PSI 3500 RPM MD VLT
CID/APL Number(s): 016020512	Federal Stock Number: None* (1)
Equipment identification code.	AP28000/310E700
Technical Manual: 347-3209	
Manufacturer: Warren Pumps, Inc.	63857
	Basic Data
Ship Population: DDG 2, 5, 6, 7, 8.	9,* (2) Equip. Population/Ship: 4
	56 Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.59; B	= 0.59; C = 0.00
	423037
	Corrective Maintenance Events (CM): 93
	Total CM Repair Man-Hours:1112
Maintenance Factors:	0.67
90% Confidence Interval	90% Confidence Interval
Upper Limit: 39044 16586	opper Linne.
Lower Limit:	DOWNER MINING.
M	aintainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
MTTR _f : 5.9	MTTR _{cm} : 7.2
MCMM _f : 4.3	MCMM _{cm} : 4.0
Max. Observed MH:110	Max. Observed MH:
MCMM _f :10.8	MCMM _{cm} : 11.4
Variance:	Variance: 328
Indicated Distribution(s): Exponential	Normal Log NormalX
*REMARKS: (1) (R-654 Rev. E II	D-1 1-2-2 CV6); (2) 12, 14, 17, 18, 19, 20 es developed for ARINC Research Publication
933-02-3-1153, dated December	
444-11/- 4- 154 deted December	7 1071

Noun Name: Pump, S.W. Circulating	, SSTG
General Description: Pump, CTFGL, 1800	GPM 57 PSI 1150 RPM MD VLT
CID/APL Number(s): 016030283	Federal Stock Number: None* (1)
	3000/310E600
Technical Manual: 347-1417	
Manufacturer: Worthington Corp. 932	232
Bai	sic Data
Ship Population: AO 52, 53, 54, 55,* (3	Equip. Population/Ship: 1
Equip. Population in Data Base: 12	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00; B = 0.70	O; C = 0.0
Total Equip. Operating Time (hours):13818	
Total Number of: Failures (CM _f): 1	_ Corrective Maintenance Events (CM): 11
	_ Total CM Repair Man-Hours:397
Maintenance Factors: 0.67	_ 10th Civi Repair Mail-110ths.
Manuellance Factors.	
Reliah	ility Indices * *
IVE LIABO	mby murces
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 138185	MTBCM: 12562
90% Confidence Interval	90% Confidence Interval
Upper Limit: 2558981	Upper Limit: 22396
Lower Limit: 29128	Lower Limit: 7589
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :1.0	MTTR _{cm} : 24.1
MCMM _f :0.0	MCMM _{cm} : 16.0
Max. Observed MH: 1.5	Max. Observed MH:172
MCMM _f :1.5	MCMM _{cm} :36.1
Variance: 0.0	Variance: 2626
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) (RW-50657 ID-8-LS-	1); (2) 56, 57, 58, 60, 62, 63, 64, 97
	or ARINC Research Publication 933-02-3-
1153, dated December 1971	Contract the contract of the c
	2-16

Noun Name: Pump, Main Condenser, S	. W. Circulating
General Description: Pump CTFGL 10500	
CID/APL Number(s): 016030304 & *(1)	Federal Stock Number: None - (R-311)
	0/FB03000
Technical Manual: 347-1417	
Manufacturer: 93232 Worthington Corp.	
Ship Population: A0 52,53,54,55,56,57,	*(2) Equip. Population/Ship:
Utilization Factors: S: A = 1.00; B = 0.10	C = 0.0
Total Equip. Operating Time (hours):188	3959
Total Number of: Failures (CMf): 7	_ Corrective Maintenance Events (CM): 24
	_ Total CM Repair Man-Hours:300
Maintenance Factors:0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
Maintain	ability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	(1985) #866 9960
MTTR _f :1.1	MTTR _{cm} : 8.3
MCMM _f :2.0	MCMM _{cm} : 2.0
Max. Observed MH: 3	Max. Observed MH: 64
MCMM _f :1.7	MCMM _{cm} : 12.5
Variance: 0.7	Variance: 325
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) 016030305 (2) 58,	
	rch Publication 933-02-3-1153, dated
December 1971	

		ment Identification		
Noun Name: Pump	, Condensate, S	STG		
General Description:		50 GPM 173 PS		
CID/APL Number(s):	016030360	Federal Stock	Number: No	ne* (1)
Equipment Identification C	Code:	AP28000/310E70	0	
Equipment Identification C Technical Manual:	347-1417			
Manufacturer: Worth:	ington Corp. 93	3232		
		Basic Data		
Ship Population: A0 52 Equip. Population in Data Utilization Factors: S: A	, 53, 54, 55, 5	6* (2) Equip. P	opulation/Ship:	1
Equip. Population in Data	Base:	Data Ass	sessment Period	: 7/1/67 - 6/30/69
Utilization Factors: S: A	= 1.00; B = 0.	.70; C = 0.00		
Total Equip. Operating Tir	ne (hours):	138185		
Total Number of: Failu	res (CMf):	Corrective Ma	intenance Even	ts (CM): 36
Total CM _f Repair Man-Hor	urs: 107	Total CM Rep	pair Man-Hours	F18
Maintenance Factors:		Total CM Rep		A ASSESSMENT MADE IN
(Forcea Snutaown Co	orrective Maintenance)		-0-0	
	orrective Maintenance)		3838	
MTBCM _f : 10630	<u>ili</u>	MTBCM:		hrude towers
MTBCM _f : 10630	rval 17965	MTBCM:	fidence Interva	5169
MTBCM _f : 10630	rval 17965	MTBCM: 90% Con Upp		5169
MTBCM _f : 10630 90% Confidence Inter Upper Limit: Lower Limit:	rval 17965 6683 Main	MTBCM:	nfidence Interva per Limit:	5169 2906
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only)	rval 17965 6683 Main	MTBCM:	nfidence Interva per Limit: wer Limit:	5169 2906
MTBCM _f : 10630 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 6.0	rval 17965 6683 Main	MTBCM:	nfidence Interva	5169 2906
MTBCM _f : 10630 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 3.3 MCMM _f : 3.3 Max. Observed MH:	rval 17965 6683 Main	MTBCM:	per Limit: ver Limit: nintenance — (A 10.0 6.5 served MH:	5169 2906
MTBCM _f : 10630 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 6.0 MCMM _f : 3.3 Max. Observed MH: 8.9	rval 17965 6683 Main (Forced Shutdown	MTBCM:	per Limit: wer Limit: nintenance — (A 10.0 6.5 served MH: 14.4	5169 2906
MTBCM _f : 10630 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 6.0 MCMM _f : 3.3 Max. Observed MH: 800	rval 17965 6683 Main (Forced Shutdown	MTBCM:	per Limit: wer Limit: nintenance — (A 10.0 6.5 served MH: 14.4	5169 2906
MTBCM _f :10630 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :6.0 MCMM _f :3.3 Max. Observed MH:8.9	rval 17965 6683 Main (Forced Shutdown	MTBCM:	per Limit: wer Limit: nintenance — (A 10.0 6.5 served MH: 14.4 2:394	5169 2906
MTBCM _f : 10630 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 6.0 MCMM _f : 3.3 Max. Observed MH: 8.9 Variance: 161 Indicated Distribution (s):	rval 17965 6683 Main (Forced Shutdown 40 Exponential	MTBCM:	per Limit: wer Limit: nintenance — (A 10.0 6.5 served MH: 14.4 14.4 14.4	5169 2906 All Events) 91 Log Normal
MTBCM _f : 10630 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 6.0 MCMM _f : 3.3 Max. Observed MH: 8.9 Variance: 161	rval 17965 6683 Main (Forced Shutdown 40 Exponential	MTBCM:	per Limit: wer Limit: nintenance — (A 10.0 6.5 served MH: 14.4 14.4 14.4	5169 2906 All Events) 91 Log Normal

General Description: Pump CTFGL, 1	te 50 GPM 75 PSI 1750 RPM MD VLT
CID/APL Number(s): 016030387	Federal Stock Number: None * (1)
Equipment Identification Code: Z	Q01000/F309100
Technical Manual: 347-1417	
Manufacturer: Worthington Corp.	93232
	Basic Data
Ship Population: AO 52, 53, 54, 55,	56,* (2) Equip. Population/Ship: 3
Fauin Population in Data Base: 3	56,* (2) Equip. Population/Ship: 3 Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.67; B =	0.07; $C = 0.0$
Total Equip. Operating Time (hours):1	90,565
Total Number of: Failures (CM _f):	6 Corrective Maintenance Events (CM): 100
Total CM - Repair Man-Hours: 187	Total CM Repair Man-Hours: 1797
Maintenance Factors:	.67
William Control 1 across 1	
	Reliability Indices * *
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance	
MTBCM _f :11910	MTBCM:1906
Onc. Confidence Interval	90% Confidence Interval
Upper Limit: 18984	Upper Limit: 2265
Lower Limit: 7840	Lower Limit: 1614
Ma	intainability Indices
	intainability Indices Corrective Maintenance — (All Events)
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events) MTTR _{cm} :12.0
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.9	Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :2,4	Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.9 MCMM _f : 2.4 Max. Observed MH: 97	Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :2,4 Max. Observed MH:97 MCMM _f :10,4	Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.9 MCMM _f :2.4 Max. Observed MH:97 MCMM _f :10.4 Variance:532	Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.9 MCMM _f : 2.4 Max. Observed MH: 97 MCMM _f : 10.4 Variance: 532 Indicated Distribution(s): Exponential	Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Corrective Maintenance — (All Events) MTTR _{cm} :

Federal Stock Number: None* (1) 28000/310E700
P28000/310E700
232
232
Basic Data
*(2) Equip. Population/Ship: 2
Data Assessment Period: 7/1/67 - 6/30/69
0.66; C = 0.0
0/4/
Corrective Maintenance Events (CM):
Total CM Repair Man-Hours: 466
67
Mean Time Between Corrective Maintenance MTBCM:1878
MTBCM: 1878 90% Confidence Interval
MTRCM: 1878
MTBCM: 1878 90% Confidence Interval
MTBCM:
MTBCM: 1878 90% Confidence Interval Upper Limit: 2541 Lower Limit: 1417 Intainability Indices Corrective Maintenance — (All Events) MTTR : 8.9
MTBCM: 1878 90% Confidence Interval Upper Limit: 2541 Lower Limit: 1417 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.9 MCMM _{cm} : 6.0
MTBCM: 1878 90% Confidence Interval Upper Limit: 2541 Lower Limit: 1417 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.9 MCMM _{cm} : 6.0 Max. Observed MH: 108.5
MTBCM: 1878 90% Confidence Interval Upper Limit: 2541 Lower Limit: 1417 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.9 MCMM _{cm} : 6.0 Max. Observed MH: 108.5 MCMM _{cm} : 13.3
MTBCM: 1878 90% Confidence Interval Upper Limit: 2541 Lower Limit: 1417 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.9 MCMM _{cm} : 6.0 Max. Observed MH: 108.5
MTBCM:
0

Noun Name: Pump, Automotive Gasolin General Description: Pump, CTFGL 25 GPM	30 PSI 3500 RPM WTCC VLT	
	Federal Stock Number: Dwg-RW-110317	
	Federal Stock Number:Dwg-Rw-110.517	
Manufacturer: 93232 WOF GHING CON CO	rp.	
	Basic Data	
	34, 35; Equip. Population/Ship: 2 ea/LSD	
Equip. Population in Data Base: 16	Data Assessment Period: 7/1/67 - 6/30/6	
Utilization Factors: S: A = 0.02, B =	0.02, C = 0.02	
	561/4	
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):	
Total CM _f Repair Man-Hours: 2	Total CM Repair Man-Hours:	
Maintenance Factors: 0.67		
Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 5614	Mean Time Between Corrective Maintenance MTBCM: 5614	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 5614 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 5614 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 5614 90% Confidence Interval Upper Limit: 109435	Mean Time Between Corrective Maintenance MTBCM:5614 90% Confidence Interval Upper Limit:109453	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:109435 Lower Limit:1183	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:109435 Lower Limit:1183	Mean Time Between Corrective Maintenance MTBCM:5614 90% Confidence Interval Upper Limit:109453	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:109435 Lower Limit:1183	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MCMM _{cm} :	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	

Dump OMDOT	ating,	BBIG
General Description: rump CTFGL,	700 GP	PM 15 PSI 1150 RPM MCC VLT
CID/APL Number(s): 016030981		Federal Stock Number: None* (1)
Equipment Identification Code:	AP2300	00/310E600
Technical Manual: 347-1671		
Manufacturer: Worthington Corp.	93232	
	Basic	Data
Ship Population: LSD 31, 33, 34, 3	5	Equip. Population/Ship: 4
	16	Data Assessment Pariod, 7/1/67 6/30/60
Utilization Factors: S: A = 0.54; B =	0.38;	C = 0.0
Total Equip. Operating Time (hours):	99921	
Total Number of: Failures (CM _f):	6	Corrective Maintenance Events (CM): 16
Total CM - Papair Man Hours: 142		Total CM Repair Man-Hours: 513
Maintenance Factors:	0.67	Total Civi Repair Main Moust.
Mean Time Between Failure		Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenan MTBCM _f : 16654	ice)	MTBCM: 6245 90% Confidence Interval
(Forced Shutdown Corrective Maintenand MTBCM _f : 16654 90% Confidence Interval Upper Limit: 38182	ice)	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954
(Forced Shutdown Corrective Maintenant MTBCM _f : 16654 90% Confidence Interval Upper Limit: 38182 Lower Limit: 8432	ice)	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954
(Forced Shutdown Corrective Maintenant MTBCM _f : 16654 90% Confidence Interval	(ce)	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954 Lower Limit: 4111
(Forced Shutdown Corrective Maintenand MTBCMf: 16654 90% Confidence Interval Upper Limit: 38182 Lower Limit: 8432 MM Corrective Maintenance — (Forced Shutdown Failure Events Only)	ice) Iaintainabi	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954 Lower Limit: 4111 dility Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenand MTBCM _f : 16654 90% Confidence Interval Upper Limit: 38182 Lower Limit: 8432 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 15.8	ice) Iaintainabi	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954 Lower Limit: 4111 dity Indices Corrective Maintenance — (All Events) MTTR _{cm} : 21.4
(Forced Shutdown Corrective Maintenan MTBCM $_{\rm f}$: $\frac{16654}{90\%}$ Confidence Interval Upper Limit: $\frac{38182}{8432}$ Lower Limit: $\frac{8432}{90\%}$ MCOrrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: $\frac{15.8}{0.5}$ MCMM $_{\rm f}$: $\frac{0.5}{90\%}$	ice) Iaintainabi	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954 Lower Limit: 4111 dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 21.4 MCMM _{cm} : 3.3
(Forced Shutdown Corrective Maintenand MTBCM _f :	(ce)	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954 Lower Limit: 4111 dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 21.4 MCMM _{cm} : 3.3 Max. Observed MH: 174
(Forced Shutdown Corrective Maintenand MTBCM _f :	(ce)	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954 Lower Limit: 4111 dity Indices Corrective Maintenance — (All Events) MTTR _{cm} : 21.4 MCMM _{cm} : 3.3 Max. Observed MH: 174 MCMM _{cm} : 32.1
(Forced Shutdown Corrective Maintenand MTBCM _f :	(ce)	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954 Lower Limit: 4111 dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 21.4 MCMM _{cm} : 3.3 Max. Observed MH: 174
(Forced Shutdown Corrective Maintenant MTBCM $_{\rm f}$: $\frac{16654}{90\%}$ Confidence Interval Upper Limit: $\frac{38182}{8432}$ Lower Limit: $\frac{8432}{8432}$ MCCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: $\frac{15.8}{0.5}$ MCMM $_{\rm f}$: $\frac{0.5}{0.5}$ Max. Observed MH: $\frac{140}{0.5}$ MCMM $_{\rm f}$: $\frac{23.7}{0.5}$	(ce)	MTBCM: 6245 90% Confidence Interval Upper Limit: 9954 Lower Limit: 4111 dity Indices Corrective Maintenance — (All Events) MTTR _{cm} : 21.4 MCMM _{cm} : 3.3 Max. Observed MH: 174 MCMM _{cm} : 32.1

General Description:	Pump CTFGL,	7000 GPM	10 PSI 130	O RPM TD AXFL
CID/APL Number(s):	016030985	Fed	leral Stock Number	4320-391-9195
Equipment Identification	Code:	ZH05000/		raniosituali paragus
Technical Manual	347-2452			
Manufacturer: Worth	nington Corp.	93232		
		Basic Da	a	
DE 100	6 1014 100	2 2000#/		
Ship Population: DE 100	06, 1014, 102	5, 1029*(.	Equip. Population	/Ship: 1
Equip. Population in Dat	a Base:	b = 1 00:	Data Assessment I	Period: 7/1/67 - 6/30/6
Utilization Factors:	o. A - 0.03,	1/1256	C = 0.0	
Total Equip. Operating T	ime (hours):	5 -		Events (CM): 10
Total Number of: Fail	ures (CM _f):	Coi	rective Maintenance	
Total CM _f Repair Man-He	ours:35	Tot	al CM Repair Man-l	Hours:93
Maintenance Factors:		0.67		And Phononesia
		Reliability In	dices * *	
manufaction of the state of the				
Mean Time Between Fail			in Time Between Co	orrective Maintenance
(Forced Shutdown (corrective Maintena			
$MTBCM_f$: 2871		MT	BCM:143	6
90% Confidence Int			90% Confidence In	
Upper Limit: _	1365		Upper Limit:	2645 846
Lower Limit: _	2307		Lower Limit:	040
		• · · · · · · · · · · · · · · · · · · ·	Y 31	
		Aaintaina bility	indices	
Corrective Maintenance -	(Forced Shutdown	Con	rective Maintenance	- (All Events)
Failure Events Only)				
MTTR _f : 4.6		MT	TR _{cm} : 6.2	The second second
MCMM _f :2.0		MC	MM _{cm} : 4.2	
Max. Observed MH:	28	_	Max. Observed Mi	I :28
MCMM _f :6.9	-0.	MC	MM _{cm} : 9.3	
Variance: 140			Variance: 112	
			Normal	Log Normal
Indicated Distribution (s)	: KYDODANTIAI			
Indicated Distribution(s)				for ARINC Research

General Description: Pump. CTFGL 2	5 GPM 50 PSI 3510 RPM MCC VIT
	Federal Stock Number: RW-104290 Dwg
	H17
Technical Manual: 347-2726	
Manufacturer: 93232 Worhington	Corp.
	Basic Data
DE 1021, 1022, 103	27, 1028,
	Equip. Population/Ship: 2 ea/DE
	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: $S: A = 0.50$,	B = 0.30, C = 0.10
Total Equip. Operating Time (hours):	57189
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:224
Maintenance Factors:O.	67
(Forced Shutdown Corrective Maintena	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintena	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenaum) MTBCM _f : 82506**	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintena	Mean Time Between Corrective Maintenance nce) MTBCM: 5199
Mean Time Between Failure (Forced Shutdown Corrective Maintena MTBCM _f : 82506** 90% Confidence Interval	Mean Time Between Corrective Maintenance nce) MTBCM: 5199 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintena MTBCM _f : 82506** 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance (nce) MTBCM: 5199 90% Confidence Interval Upper Limit: 9271
Mean Time Between Failure (Forced Shutdown Corrective Maintena MTBCM _f : 82506** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance (nce) MTBCM: 5199 90% Confidence Interval Upper Limit: 9271
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCMf: 82506** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance (nce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintena MTBCM _f : 82506** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance (nce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenant MTBCM _f : 82506** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance mce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintena MTBCM _f : 82506** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance mce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenant MTBCM _f : 82506** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance mce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCMf: 82506** 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit:	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCM _f : 82506** 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit:	Mean Time Between Corrective Maintenance mce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCMf: 82506** 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTRf: ————————————————————————————————————	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCMf: 82506** 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTRf: ————————————————————————————————————	Mean Time Between Corrective Maintenance MTBCM:

Equipment Identification

Noun Name: Pump, Main Condensate	The state of the s
General Description: Pump CTFGL, 235	GPM 60 PSI 1745 RPM MD VLT
CID/APL Number(s): 016031005	Federal Stock Number: 4320-391-9181
Equipment Identification Code: ZQ01	Federal Stock Number: 4320-391-9181 000/F309100
Technical Manual: 347-2322 (347-28	29)
Manufacturer: Worthington Corp. 932	32
В	asic Data
Ship Population: DE 1006, 1014, 1028, 1029,	* (1) Equip. Population/Ship: 2
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.75; B = 0.5	0; C = 0.0
Total Equip. Operating Time (hours):5093	
Total Number of: Failures (CMs): 13	Corrective Maintenance Events (CM):61
170	1200
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3918 90% Confidence Interval Upper Limit: 6622	90% Confidence Interval Upper Limit: 1045
Lower Limit: 2464	Lower Limit: 675
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 9.9	MTTR _{cm} :14.3
MCMM _e :6.1	MCMM _{cm} : 14.0
Max. Observed MH: 40	Max. Observed MH: 100
MCMM _f :14.9	MCMM _{cm} : 21.5
Variance: 339	Variance: 543
Indicated Distribution(s): Exponential	Normal Log Normal X
*REMARKS: (1) 1030 **Reliabili Publication 933-02-3-1153, dated	ty indices developed for ARINC Researc

And Market Lines Comment

Noun Name: Centrifugal Pump, Main Co	ndensate
General Description: 235 GPM 60 PSI 174	
CID/APL Number(s): 016031005	
Equipment Identification Code: ZQ01000 Technical Manual: 347-2322	
Manufacturer: Worthington Corporation	
Basi	ic Data
Ship Population: DE 1025,1026,1027,1028	*(3) Equip. Population/Ship: 2 ea/DE
	Data Assessment Period: Jan 67-July 69
Utilization Factors: 1.00 (31935.5 Underwa	y Hrs)
Total Equip. Operating Time (hours): 31935.	
Total Number of: Failures (CMs): 14	Corrective Maintenance Events (CM):69
(2011년 - 1201년	
Total CM _f Repair Man-Hours: 72.4	
Maintenance Factors:	
Reliabil	ity Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	Mean Time Between Confective Manitenance
	11.00.0
MTBCM _f : 2281.1	MTBCM: 462.8
90% Confidence Interval	90% Confidence Interval
Upper Limit: 3779.3	Upper Limit: 572.5
Lower Limit: 1458.2	Lower Limit: 379.4
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 3.3	MTTR _{cm} : 7.0
$MCMM_{\mathbf{f}}: \frac{3\cdot 1}{3\cdot 1}$	MCMM _{cm} : 7.0
Max. Observed MH:	Max. Observed MH:
MCMM _f : 5.2	MCMM _{cm} :18.0
Variance: 38.4	Variance: 595.4
variance:	Valiance.
Indicated Distribution(s): Exponential	Normal Log Normal
*PFMARKS: *(1) Single Suction. Si	ngle Stage; *(2) DN# SL-8142 ID-UZS-1,
	viously developed for ARINC Research
Publication 588-02-3-1058, dated	
2-	

Noun Name: Pump,	Condensate	SSTG				
General Description:			75 PSI	3500 RPM	MD VLT	
CID/APL Number(s):	016031018		deral Stock N			
Fauinment Identification	'ode:	AP28000/	301E700	umber.		
Equipment Identification C Technical Manual:	347-2473; 34	17-2587				
Manufacturer: Worth:						
Manufacturer:		75-5-				
		Basic Da	ta			
Ship Population: AO 14	5,147,148/LSI	31,*(2)	Equip. Pop	ulation/Ship:	3/AO: 4/LSD	
Equip. Population in Data						
Utilization Factors: AO: S:	:A=1.00; B=0.	70; C=0.				
Total Equip. Operating Tin	ne (nours).	169613				
Total Number of: Failur	res (CM _f):	33 Co	rrective Maint	enance Even	ts (CM): 75	
Total CM _f Repair Man-Hou	224	То	tal CM Renai	Man.Hours	796	
Maintenance Factors:		0.67	un car recpui			
Mean Time Between Failur (Forced Shutdown Co	orrective Maintenan	œ)			ve Maintenance	
$MTBCM_{\mathbf{f}}$: 5134		MT	'BCM:	2261		
90% Confidence Inter				lence Interval		
Upper Limit:	3843			Limit:		
Lower Limit:	3043		Lower	Limit:	1000	
	M	aintainability	Indices			
Corrective Maintenance — (Failure Events Only) 4.2		Co	rrective Maint		ll Events)	
		MT	TR _{cm} :	6.6		
MCMM _f :2.0		MC	MM _{cm} :	3.4		
Max. Observed MH: _	50		Max. Obser	ved MH:	98	
MCMM _f :6.2	2004	MC	MM _{cm} :	3.9		
Variance: 131	Variances auditory		Variance: _	283	Angel .	
Indicated Distribution (s):		_	Normal _		Log Normal	х
*REMARKS: (1) (SL-8	0403 ID-1 1	-2 UZS-	1); (2)	33, 34,	35	
**Reliability indic	on downland	Cam ADT	NO Deces	- b D + 3.4		-

eneral Description	Pump CTFGL,	SSTG 20 GPM	70 PS	3500	RPM I	MD VLT
CID/APL Number(s):	016031050	F	ederal Stoc	k Number	4320-	-025-3939
Equipment Identification (
echnical Manual:	347-2634					STANCE TO BE STANCE OF
Manufacturer: Worth	ington Corp.	93232				10 Strain and 10 Strain 1
nanulacturel.						and the second second
		Basic D	ata			
		Danie L				
Ship Population:DD 938,						
Equip. Population in Data	Base:	32	_ Data As	ssessment l	Period: 7	/1/67 - 6/30/
Utilization Factors: DD-S:	A = 0.48; B =	0.48;	C = 0.0	/ DDG-S	: A = 0	59: B=0.59*
Total Equip. Operating Tir	me (hours):	176545				0.5
Total Number of: Failu						СМ): <u>95</u>
Total CM _f Repair Man-Hou	urs: 189	т	otal CM Re	pair Man-l	Hours:	999
Maintenance Factors:		0.67		ALIENSE VINE		
					1	
		Reliability	Indices * *			
Mean Time Between Failur			ean Time I	Between C	orrective	Maintenance
(Forced Shutdown Co	orrective Maintenan			i estada		
0007	Lea Server	M	TBCM:	185	8	
MTBCM _f : 8827						
90% Confidence Inter			90% Co	nfidence I		
90% Confidence Inter	13312		Ur	per Limit	2:	219
with Bellift.	13312		Ur		2:	
90% Confidence Inter Upper Limit:	13312 6075		Ur Lo	per Limit	2:	
90% Confidence Inter Upper Limit:	13312 6075	aintainabili	Ur Lo	per Limit	2:	
90% Confidence Inter Upper Limit: Lower Limit:	13312 6075		Ur Lo	oper Limit ower Limit	2:	567
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance —	13312 6075		Up Lo ty Indices	oper Limit ower Limit	2:	567
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTRs:6.0	13312 6075	C	Up Lo ty Indices orrective M	oper Limit	2:	567
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :	13312 6075	C	Up Lo ty Indices orrective M	oper Limit	2:	567
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :	13312 6075 M (Forced Shutdown	C	Ur Lo ty Indices orrective M ITTR _{cm} : _	oper Limit	2: - (All E	vents)
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :	13312 6075 M (Forced Shutdown	C M M	ty Indices orrective M ITTR _{cm} : - ICMM _{cm} : - Max. O	per Limit wer Limit laintenance 7.0 5.0 bserved Mi 10.5	2: - (All E	vents)
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :	13312 6075 M (Forced Shutdown	C M M	ty Indices orrective M ITTR _{cm} : - ICMM _{cm} : - Max. O	per Limit wer Limit aintenance 7.0 5.0 bserved Mi	2: - (All E	vents)
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 6.0 MCMM _f : 2.0 Max. Observed MH: MCMM _f : 9.0 Variance: 234	13312 6075 M (Forced Shutdown	C M M	Up Locate Indices orrective M ITTR _{cm} : - ICMM _{cm} : - Max. O ICMM _{cm} : - Variance	per Limit laintenance 7.0 5.0 bserved Mi 10.5 e: 261	2: - (All E	(vents)
90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :	13312 6075 M (Forced Shutdown	M M	ty Indices orrective M TTR _{cm} : - ICMM _{cm} : - Max. O	per Limit laintenance 7.0 5.0 bserved Mi 10.5 e: 261	2: 1: - (All E	ivents) Log Normal X

Noun Name: Pump, Fresh Water S General Description: Pump, CTFGL	
016021072	
CIDIAI L Number(s).	Federal Stock Number: RW-110325
2/17 27/18	AH17
recinical Manual.	1
Manufacturer: 93232 Worthington C	orp.
	Basic Data
Ship Population: AE 21, 22, 23 and 25	Fourin Bonulation (Shin. 2 EA/AE
Snip Population:	B Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.50; B = 0.	50; C = 0.10
Total Equip. Operating Time (hours):	58547
Total Number of: Failures (CM _f): 5	Corrective Maintenance Events (CM): 15
Maintenance Factors:	Total CM Repair Man-Hours: 156
Maintenance Paccols.	
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709	Mean Time Between Corrective Maintenance MTBCM: 3903
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 3903 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 3903 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569	Mean Time Between Corrective Maintenance MTBCM: 3903 90% Confidence Interval Upper Limit: 6332
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Mainta	Mean Time Between Corrective Maintenance MTBCM: 3903 90% Confidence Interval Upper Limit: 6332 Lower Limit: 2535
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Mainta	Mean Time Between Corrective Maintenance MTBCM: 3903 90% Confidence Interval Upper Limit: 6332 Lower Limit: 2535
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.9	Mean Time Between Corrective Maintenance MTBCM: 3903 90% Confidence Interval Upper Limit: 6332 Lower Limit: 2535 Lower Limit: 41 Events MTTRcm: 6.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.9 MCMM _f : 0.5	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.9 MCMM _f : 0.5 Max. Observed MH: 5	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.9 MCMM _f : 0.5 Max. Observed MH: 5	Mean Time Between Corrective Maintenance MTBCM: 3903 90% Confidence Interval Upper Limit: 6332 Lower Limit: 2535 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.9 MCMM _{cm} : 2.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.9 MCMM _f : 0.5 Max. Observed MH: 5	MTBCM: 3903 90% Confidence Interval Upper Limit: 6332 Lower Limit: 2535 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.9 MCMM _{cm} : 2.0 Max. Observed MH: 70 MCMM _{cm} : 10.4 Variance: 348
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11709 90% Confidence Interval Upper Limit: 29717 Lower Limit: 5569 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.9 MCMM _f : 0.5 Max. Observed MH: 5 MCMM _f : 1.3 Variance: 4.3	MTBCM:

Noun Name: Pump, Fresh Water Servic	a
Noun Name: Pump, CTFGL 200 G	PM 90 PSI 3500 RPM MCC VLT
General Description:	Federal Stock Number: RW-108323
CID/APL Number(s): 016031082 AH17	Federal Stock Number:
Equipment Identification Code:	
echnical Manual.	
Manufacturer: 93232 Worthington Corp.	
Basi	c Data
Ship Population: CVA 61	Equip. Population/Ship: 4 EA/CVA 61 Data Assessment Period: 7/1/67 - 6/30/69 25.088
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.50; B = 0.50;	C = 0.50
Total Equip. Operating Time (hours):	35088
Total Number of: Failures (CM _f): 11	Corrective Maintenance Events (CM): 35
Total CMc Repair Man-Hours: 130	Total CM Repair Man-Hours: 399
Maintenance Factors: 0.67	
Reliabili	ty Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 3189 90% Confidence Interval Upper Limit: 5688 Lower Limit: 1927	MTBCM: 1002 90% Confidence Interval Upper Limit: 1356 Lower Limit: 756
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 7.8	MTTR _{cm} : _7.6
MCMM _f :3.6	MCMM _{cm} : _7.0
Max. Observed MH: 86	Max. Observed MH:86
MCMM _f :11.8	MCMM _{cm} : 11.4
Variance:619	Variance: 248
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	

Noun Name: Pump, Main Feed General Description: Pump CTFGL.	450 GPM 1445 PSI 7550 RPM TD VLT
CID/APL Number(s): 016031087	Federal Stock Number: 4320-289-1759
Equipment Identification Code:	ZQ03000/F3C3100
Technical Manual: 93232 Worthingt	on Corp.
Manufacturer:	
	Basic Data
Ship Population: DD 938, 941, 942,	945. *(1) Equip. Population/Ship: 4/DD; 4/DDG; 6/PL
Equip. Population in Data Base:	72 Data Assessment Period: 7/1/67 - 6/30/69
	0.25; C = 0.00 / DDG-S: A = 0.51; B=0.25; *(
Total Equip. Operating Time (hours):	455511
Total Number of: Failures (CM _f):	61 Corrective Maintenance Events (CM): 154
Total CM _f Repair Man-Hours: 797	Total CM Repair Man-Hours: 5137
	0.67
(Forced Shutdown Corrective Maintena MTBCM _f :7467 90% Confidence Interval Upper Limit:9345 Lower Limit:6034	MTBCM:956 90% Confidence Interval Upper Limit:3395 Lower Limit:2588
	Maintainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :8.9	MTTR _{cm} :
MCMM _f :3.1	MCMM _{cm} : 4.0
Max. Observed MH: 351	Max. Observed MH:1770
MCMM _f :13.3	MCMM _{cm} : 33.4
Variance: 2208	Variance: 22217
Indicated Distribution (s): Exponential	Normal Log Normal X
*REMARKS: (1) 948, 951 / DDG (2) C = 0.0 / DLG-S: A = 0.6	31, 32, 33 / DLG 18, 19, 20, 22, 23, 33 7; B = 0.56; C = 0.0 **Reliability indices
	Publication 933-02-3-1153, dated December
actoroped for milito hesearch	Tubilitation 955-02-5-1195; dated becember

Noun Name: Pump. Main Fee	i -
General Description: Pump CTF	GL, 460 GPM 1460 PSI 7600 RPM TD VLT
CID/APL Number(s): 01603122	
Equipment Identification Code:	ZQ03000/F303100
Technical Manual: 347-2693	
Manufacturer: 93232 Worthing	ton Corp.
	Basic Data
Ship Population: DDG 2, 5, 6, 7,	8, 9, 12, *(1)Equip. Population/Ship: 6/DDG; 6/DLG
	78 Data Assessment Period: 7/1/67 - 6/30/69
	6; B = 0.32; C = 0.00 / DLG-S: A = 0.67 *(2)
	284188 326
Total Number of: Failures (CMf):	Corrective Maintenance Events (CM):
Total CMe Repair Man-Hours: _1802	Total CM Repair Man-Hours:5926
Maintenance Factors:	O.67 Total CM Repair Man-Hours:
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Main MTBCM _f : 2137	tenance) MTBCM: 872
(Forced Shutdown Corrective Main MTBCM _f : 2137 90% Confidence Interval	MTBCM: 872 90% Confidence Interval
(Forced Shutdown Corrective Main MTBCM _f : 2137 90% Confidence Interval Upper Limit: 2480	MTBCM: 872 90% Confidence Interval Upper Limit: 957
(Forced Shutdown Corrective Main MTBCM _f : 2137 90% Confidence Interval	MTBCM: 872 90% Confidence Interval
(Forced Shutdown Corrective Main MTBCM _f : 2137 90% Confidence Interval Upper Limit: 2480	MTBCM: 872 90% Confidence Interval Upper Limit: 957
(Forced Shutdown Corrective Main MTBCM _f : 2137 90% Confidence Interval Upper Limit: 2480 Lower Limit: 1850	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795
(Forced Shutdown Corrective Main's MTBCMf: 2137 90% Confidence Interval Upper Limit: 2480 Lower Limit: 1850 Corrective Maintenance — (Forced Shutden Failure Events Only)	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795 Maintainability Indices Own Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Main's MTBCM _f : 2137 90% Confidence Interval Upper Limit: 2480 Lower Limit: 1850 Corrective Maintenance — (Forced Shutdown)	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795 Maintainability Indices Own Corrective Maintenance — (All Events) MTTR _{cm} : 12.1
(Forced Shutdown Corrective Main MTBCM _f :	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795 Maintainability Indices MTTR _{cm} : 12.1 MCMM _{cm} : 3.0
(Forced Shutdown Corrective Main's MTBCM _f :	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795 Maintainability Indices MTTR _{cm} : 12.1 MCMM _{cm} : 3.0 Max. Observed MH: 680.0
(Forced Shutdown Corrective Main MTBCM _f :	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795 Maintainability Indices MTTR _{cm} : 12.1 MCMM _{cm} : 18.1 MCMM _{cm} : 18.1
(Forced Shutdown Corrective Main's MTBCM _f :	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795 Maintainability Indices MTTR _{cm} : 12.1 MCMM _{cm} : 3.0 Max. Observed MH: 680.0
MTBCM _f :	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795 Maintainability Indices Nown Corrective Maintenance — (All Events) MTTR _{cm} : 12.1 MCMM _{cm} : 3.0 Max. Observed MH: 680.0 MCMM _{cm} : 18.1 Variance: 3415 Normal Log Normal X
MTBCM _f :	MTBCM: 872 90% Confidence Interval Upper Limit: 957 Lower Limit: 795 Maintainability Indices Nown Corrective Maintenance — (All Events) MTTR _{cm} : 12.1 MCMM _{cm} : 3.0 Max. Observed MH: 680.0 MCMM _{cm} : 18.1 Variance: 3415

	rice
General Description: Pump, CTFGL 11	LO GPM 70 PSI 3500 RPM MCC VLT
CID/APL Number(s): 016031426	Federal Stock Number: None* (1)
Equipment identification Code:	117
Technical Manual: None	
Manufacturer: 93232 Worthington Corp	
1	Basic Data
Ship Population: AFS 1, 2 and 3	Foundation/Ship. 2 ea/AFS
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/
Utilization Factors: $S: A = 0.50; B = 0.5$	Equip. Population/Ship: 2 ea/AFS Data Assessment Period: 7/1/67 - 6/30/
Total Equip. Operating Time (hours):	52632
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):3
Total CM ₆ Repair Man-Hours: 2	Total CM Repair Man-Hours:5
Maintenance Factors: 0.	67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance MTBCM: 17544
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval	MTBCM: 17544 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval Upper Limit: 1025965	MTBCM: 17544 90% Confidence Interval Upper Limit: 64366
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval	MTBCM: 17544 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval Upper Limit: 1025965 Lower Limit: 11095	MTBCM: 17544 90% Confidence Interval Upper Limit: 64366
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval Upper Limit: 1025965 Lower Limit: 11095 Mainta	MTBCM: 17544 90% Confidence Interval Upper Limit: 64366 Lower Limit: 6788 inability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval Upper Limit: 1025965 Lower Limit: 11095	MTBCM: 17544 90% Confidence Interval Upper Limit: 64366 Lower Limit: 6788
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval	MTBCM: 17544 90% Confidence Interval Upper Limit: 64366 Lower Limit: 6788 inability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 17544 90% Confidence Interval Upper Limit: 64366 Lower Limit: 6788 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.1 MCMM _{cm} : 2.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

Noun Name: Pump, Fresh Water Serv	
General Description: Pump, CTFGL 48 (GPM 60 PSI 3500 RPM MCC VLT
CID/APL Number(s):	Federal Stock Number: 5-2044 Dwg.
Equipment Identification Code: AH1	
Technical Manual: 347-1004 and 3017	2
Manufacturer: 64392 Weil Pump Co.	
	asic Data
Ship Population: DD941,942,948,951 & DD0 Equip. Population in Data Base: 10 Utilization Factors: DD/DDG-S: A = 0.50;	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours):	Corrective Maintenance Events (CM): 18
Total CM _f Repair Man-Hours: 19	7 Total CM Repair Man-Hours: 89
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017	Mean Time Between Corrective Maintenance MTBCM: 2882 90% Confidence Interval Upper Limit: 4460
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017 Lower Limit: 8242	Mean Time Between Corrective Maintenance MTBCM: 2882 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017 Lower Limit: 8242 Maintain Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 2882 90% Confidence Interval Upper Limit: 4460 Lower Limit: 1944
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017 Lower Limit: 8242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017 Lower Limit: 8242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.3	Mean Time Between Corrective Maintenance MTBCM: 2882 90% Confidence Interval Upper Limit: 4460 Lower Limit: 1944 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.3
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017 Lower Limit: 8242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.3 MCMM _f : 9.5	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017 Lower Limit: 8242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.3 MCMM _f : 9.5 Max. Observed MH: 16	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017 Lower Limit: 8242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.3 MCMM _f : 9.5 Max. Observed MH: 16	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 25943 90% Confidence Interval Upper Limit: 146017 Lower Limit: 8242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.3 MCMM _f : 9.5 Max. Observed MH: 16 MCMM _f : 9.5	MTBCM:

Noun Name: Pump, Fresh Wate	T DEL ATO	
General Description: Pump, CTFO		60 PSI 3500 RPM MCC VLT
CID/APL Number(s): 016060093	Lavatra (1)	Federal Stock Number: S-2374 Dwg.
Equipment Identification Code:	AH17	All the second of the second s
Technical Manual: None		The state of the s
Manufacturer: 64392 Weil Pump	Co.	- Police Color Col
	Basic	: Data
ISM 1172 117h 1	1175 117	4 ea/LST 1173&117
Ship Population: 131 11/3, 11/4, 1	11/25 TT	Equip. Population/Ship.3 ea/LST 1175&1170
Equip. Population in Data Base: Utilization Factors: LST1173-74-S: A	A=0.50;B=	Data Assessment Period: 7/1/67 - 6/30/69=0.50; C=25/LST1175-76-S: A=0.67*(1)
Total Equip. Operating Time (hours):		
		Corrective Maintenance Events (CM):
		Total CM Repair Man-Hours:37
Maintenance Factors:	0.67	Total CW Repair Man-Hours.
Maintenance Pactors.		
		ty Indices
Mean Time Between Failure (Forced Shutdown Corrective Mainte MTBCM _f : 21489		Mean Time Between Corrective Maintenance MTBCM: 12279
(Forced Shutdown Corrective Mainte MTBCM _f : 21489 90% Confidence Interval		Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 21489 90% Confidence Interval Upper Limit: 62912		Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval Upper Limit: 26164
(Forced Shutdown Corrective Mainte MTBCM _f : 21489 90% Confidence Interval		Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 21489 90% Confidence Interval Upper Limit: 62912	enance)	Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval Upper Limit: 26164
(Forced Shutdown Corrective Mainte MTBCM _f :21489	enance)	Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval Upper Limit: 26164 Lower Limit: 6538
(Forced Shutdown Corrective Mainte MTBCM _f :21489	enance)	Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM $_{\rm f}$:	enance)	Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM $_{\rm f}$:21489	enance)	Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval Upper Limit: 26164 Lower Limit: 6538 Sility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.5 MCMM _{cm} : 3.0 Max. Observed MH: 12
(Forced Shutdown Corrective Mainte MTBCM _f :21489	enance)	Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM $_{\rm f}$:21489	enance)	Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval Upper Limit: 26164 Lower Limit: 6538 Sility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.5 MCMM _{cm} : 3.0 Max. Observed MH: 12
(Forced Shutdown Corrective Mainte MTBCM _f :21489	enance) Maintainab	Mean Time Between Corrective Maintenance MTBCM: 12279 90% Confidence Interval

Noun Name: Pump, Fresh Water Service	An apolitic controllers and trade and the controllers of the controlle
Constal Description. Pump, CTFGL 50 CPM	60 PSI 3500 RPM MCC VLT
CID/APL Number(s): 016060119	Federal Stock Number: S-2991 Dwg.
Equipment Identification Code: AH17	
Technical Manual: 347-3326	
Manufacturer: 64392 Weil Pump Co.	
Be	sic Data
DD946; DDG2,5,6,7,8,9,11,12	2 02 /DD & DDG
Ship Population: 13,14,15,16,17,18,19,20,21	Equip. Population/Ship: 2 ea/DD & DDG
Equip. Population in Data Base:38	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DD/DDG-S: A = 0.50;	B = 0.30; C = 0.10
Total Equip. Operating Time (hours):	292717
	_ Corrective Maintenance Events (CM):56
Total CM _f Repair Man-Hours: 178	_ Total CM Repair Man-Hours:632
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085	Mean Time Between Corrective Maintenance MTBCM: 5227 90% Confidence Interval Upper Limit: 6610 Lower Limit: 4184
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085 Lower Limit: 10072	90% Confidence Interval Upper Limit: 6610
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085 Lower Limit: 10072 Maintair	MTBCM: 5227 90% Confidence Interval Upper Limit: 6610 Lower Limit: 4184
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085 Lower Limit: 10072 Maintair Corrective Maintenance — (Forced Shutdown	MTBCM: 5227 90% Confidence Interval Upper Limit: 6610 Lower Limit: 4184 nability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085 Lower Limit: 10072 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085 Lower Limit: 10072 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.9	MTBCM: 5227 90% Confidence Interval Upper Limit: 6610 Lower Limit: 4184 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5 MCMM _{cm} : 5.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085 Lower Limit: 10072 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.9 MCMM _f : 3.3 Max. Observed MH: 80	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085 Lower Limit: 10072 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.9 MCMM _f : 3.3 Max. Observed MH: 80	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14635 90% Confidence Interval Upper Limit: 22085 Lower Limit: 10072 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.9 MCMM _f : 3.3	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :14635	MTBCM: 5227 90% Confidence Interval Upper Limit: 6610 Lower Limit: 4184 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5 MCMM _{cm} : 5.0 Max. Observed MH: 100 MCMM _{cm} : 11.3 Variance: 331
(Forced Shutdown Corrective Maintenance) MTBCM _f :	### MTBCM:

General Description: Tump CIPUL, 104	0 GPM 15 PSI 1760 RPM MCC VLT
CID/APL Number(s): 016060149	
Equipment Identification Code: AP2	
Technical Manual: 347-3618	and the second of the second o
Manufacturer: Weil Pump Co. 64392	and the second s
Manufacturer:	
The B	Basic Data
Ship Population: DLG 18, 19, 20, 22,	23 Equip. Population/Ship: 4
Equip. Population in Data Base: 20	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: $S: A = 0.40; B = 0.$	25; C = 0.0
Total Equip. Operating Time (hours): 838	69
Total Number of: Failures (CM _f): 5	Corrective Maintenance Events (CM): 28
Total CM. Renair Man-Hours: 40.2	Total CM Repair Man-Hours: 667.4
Maintenance Factors:0.6	
	Moon Time Petruson Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 16774	Mean Time Between Corrective Maintenance MTBCM: 2995
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 16774 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 2995 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 16774 90% Confidence Interval Upper Limit: 42551	Mean Time Between Corrective Maintenance MTBCM: 2995 90% Confidence Interval Upper Limit: 4213
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 16774 90% Confidence Interval Upper Limit: 42551 Lower Limit: 7975	Mean Time Between Corrective Maintenance MTBCM: 2995 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 16774 90% Confidence Interval Upper Limit: 42551 Lower Limit: 7975	Mean Time Between Corrective Maintenance MTBCM: 2995 90% Confidence Interval Upper Limit: 4213 Lower Limit: 2184
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 16774 90% Confidence Interval Upper Limit: 42551 Lower Limit: 7975 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 2995 90% Confidence Interval Upper Limit: 4213 Lower Limit: 2184 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 16774 90% Confidence Interval 42551 Upper Limit: 7975 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.4	Mean Time Between Corrective Maintenance MTBCM: 2995 90% Confidence Interval Upper Limit: 4213 Lower Limit: 2184 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 16774 90% Confidence Interval 42551 Upper Limit: 7975 Lower Limit: 7975 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.4 MCMM _f : 1.70	MCMM _{cm} :
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MCMM _{cm} :
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MCMM _{cm} :

Noun Name: Pump, Main Aviation	
General Description: Pump CTFGL 165 GI	PM 90 PSI 3450 RPM WTD VLT
	Federal Stock Number: ID Aym 2 1-2 X 3
	AJ53
Technical Manual: 347-3477	
Manufacturer: 64392 Weil Pump Co.	
	Basic Data
Ship Population: LPH 2,3,7;	Equip. Population/Ship: 2 ea/LPH
Equip. Population in Data Base: 6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.10, B	= 0.10, C = 0.10
Total Equip. Operating Time (hours):	
Total Number of: Failures (CMs): 9	Corrective Maintenance Events (CM): 23
	Total CM Repair Man-Hours:1407
	67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 457 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:2242	Mean Time Between Corrective Maintenance MTBCM: 457 90% Confidence Interval Upper Limit: 670
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 457 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670	Mean Time Between Corrective Maintenance MTBCM: 457 90% Confidence Interval Upper Limit: 670
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670	Mean Time Between Corrective Maintenance MTBCM: 457 90% Confidence Interval Upper Limit: 670 Lower Limit: 323
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 457 90% Confidence Interval Upper Limit: 670 Lower Limit: 323 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 18.2	Mean Time Between Corrective Maintenance MTBCM: 457 90% Confidence Interval Upper Limit: 670 Lower Limit: 323 Itainability Indices Corrective Maintenance — (All Events) MTTRcm: 40.8
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 18.2 MCMMf: 11.5	MTBCM: 457 90% Confidence Interval Upper Limit: 670 Lower Limit: 323 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 40.8 MCMM _{cm} : 12.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 18.2 MCMM _f : 11.5 Max. Observed MH: 100	Mean Time Between Corrective Maintenance MTBCM:457 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 18.2 MCMM _f : 11.5 Max. Observed MH: 100 MCMM _f : 27.3	Mean Time Between Corrective Maintenance MTBCM: 457 90% Confidence Interval Upper Limit: 670 Lower Limit: 323 Itainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 40.8 MCMM _{cm} : 12.3 Max. Observed MH: 239 MCMM _{cm} : 61.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 18.2 MCMM _f : 11.5 Max. Observed MH: 100	Mean Time Between Corrective Maintenance MTBCM:457 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1169 90% Confidence Interval Upper Limit: 2242 Lower Limit: 670 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 18.2 MCMM _f : 11.5 Max. Observed MH: 100 MCMM _f : 27.3	Mean Time Between Corrective Maintenance MTBCM: 457 90% Confidence Interval Upper Limit: 670 Lower Limit: 323 Itainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 40.8 MCMM _{cm} : 12.3 Max. Observed MH: 239 MCMM _{cm} : 61.2

Equipment Identification

Dumm COMMOT CE	ice GPM 70 PSI 3500 RPM MCC VLT
General Description: Pump, CTFGL 65 CID/APL Number(s): 016060231	GPM 70 PSI 3500 RPM MCC VLT Federal Stock Number: S-4125 Dwg.
Equipment Identification Code.	Am tree (8) for a million (1)
Technical Manual: None	
Manufacturer: 64392 Weil Pump Co.	
	Basic Data
Ship Population: DLG 29, 30, 31, 33	Equip. Population/Ship: 2 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69 = 0.30; C = 0.10
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG-S: A = 0.50; B	= 0.30; C = 0.10
Total Equip. Operating Time (hours):	18324
Total Number of: Failures (CM _f): 4	Corrective Maintenance Events (CM):
Total CM. Renair Man-Hours: 20.	Total CM Repair Man-Hours:
Maintenance Factors: 0.6	7
(Forced Shutdown Corrective Maintenance) MTBCM _f : 12081 90% Confidence Interval Upper Limit: 35369 Lower Limit: 5279	MTBCM: 4027 90% Confidence Interval Upper Limit: 6979 Lower Limit: 2485
Mainte Corrective Maintenance — (Forced Shutdown	ainability Indices Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f :	MTTR _{cm} :

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General Description: Pump CTFGL 5 GPM	re. 15 PSI 3500 RPM MCC VLT
Ocherar Description.	Federal Stock Number: S-4396 Dwg.
cio/in 2 ivamoci(s).	regeral Stock Number:
Equipment Identification Code: AH31 Technical Manual: None	The second secon
Technical Manual.	
Manufacturer: 64392 Weil Pump Co.	The state of the s
Bas	sic Data
Ship Population: LPD 4, 5, and 6	Equip. Population/Ship: 8 ea/LPD
Equip Population in Data Base: 24	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: $A = 0.70$; $B = 0.5$	0; C = 0.50
Total Equip. Operating Time (hours): 228	
	_ Corrective Maintenance Events (CM):2
Maintenance Factors: 0.67	_ Total CM Repair Man-Hours:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance MTBCM: 114225 90% Confidence Interval Upper Limit: 642887 Lower Limit: 36286
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 114225 90% Confidence Interval Upper Limit: 642887
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit: Maintain	MTBCM: 114225 90% Confidence Interval Upper Limit: 642887 Lower Limit: 36286
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 114225 90% Confidence Interval Upper Limit: 642887 Lower Limit: 36286 ability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 114225 90% Confidence Interval Upper Limit: 642887 Lower Limit: 36286 ability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	MTBCM: 114225 90% Confidence Interval Upper Limit: 642887 Lower Limit: 36286 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.3 MCMM _{cm} : 1.9
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 114225 90% Confidence Interval Upper Limit: 642887 Lower Limit: 36286 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.3
(Forced Shutdown Corrective Maintenance) MTBCM _f :329582** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :O MCMM _f :O	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	MTBCM: 114225 90% Confidence Interval Upper Limit: 642887 Lower Limit: 36286 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.3 MCMM _{cm} : 1.9 Max. Observed MH: 2.
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance: Indicated Distribution (s): Exponential	### MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 329582** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance:	MTBCM: 114225 90% Confidence Interval

Noun Name: Pump,									
General Description:	Pump, CTFGL	10 G	PM 40	PSI	1750	RPM	MCC	PRP	HL
CID/APL Number(s):	016110036	0.000	Federa	1 Stock	Number	r: <u>11</u>	DCS-	460	Dwg.
Equipment Identification	Code:	AH17		•		12.00			
Technical Manual:	347-1714								Called B.
Manufacturer: 04579	Aurora Pump	Div.	of New	York	Air E	Brake	Co.		material
		Bas	ic Data						
Ship Population MSC198,	199,205,206,20	7,208,20	9 E	quip. Po	pulation	n/Ship	: <u>l e</u>	a/MS	C
Equip. Population in Data	a Base:	7	D	ata Asse	ssment	Period	1:7/1	/67	- 6/30/6
Utilization Factors: S:	A = 0.50; B	= 0.50); C =	0.10					
Total Equip. Operating T	ime (hours):		45818			<u> </u>		0.30	
Total Number of: Fail	ures (CM _f):	2	_ Correct	tive Mai	ntenanc	e Even	its (CM	():	_5
Total CM _f Repair Man-Ho	ours:3	9 14 5 2 3	Total C	CM Repa	air Man-	Hours	: 21		A NOT
Maintenance Factors:		~ (7							
Mean Time Between Failt	ure	Reliabi	lity Indic	es l'ime Be	tween C	Correct	ive Ma	intena	nce
Mean Time Between Fail (Forced Shutdown C	ure Corrective Mainten	Reliabi	Mean T					intena	nce
Mean Time Between Faile (Forced Shutdown C MTBCM _f : 22909 90% Confidence Inte	ure Corrective Mainten	Reliabi	Mean T	Fime Bet M:91 D% Conf	163	Interva	1		nce
Mean Time Between Fails (Forced Shutdown Control MTBCM _f : 22909 90% Confidence Into	ure Corrective Mainten erval 128938	Reliabi	Mean T	M: 91	163 lidence l	Interva	— մ 23256	e te Inon	nce
Mean Time Between Faile (Forced Shutdown C MTBCM _f : 22909 90% Confidence Inte	ure Corrective Mainten erval 128938	Reliabi	Mean T	M: 91	163	Interva	— մ 23256	e te Inon	nce
Mean Time Between Fails (Forced Shutdown Confidence Into Upper Limit:	ure Corrective Mainten erval 128938	Reliabi	Mean T	M: 93 O% Conf Uppe Lowe	163 lidence l	Interva	— մ 23256	e te Inon	nce
Mean Time Between Fails (Forced Shutdown Control MTBCM _f : 22909 90% Confidence Into	ure Corrective Mainten erval 128938 7278	Reliabi	Mean 1 MTBC! 90	M: 93 O% Conf Uppe Lowe	163 lidence l er Limit er Limit	Interva ::	ul 23256 4358		nce
Mean Time Between Fails (Forced Shutdown Control MTBCMf: 22909 90% Confidence Into Upper Limit: _ Lower Limit: _	ure Corrective Mainten erval 128938 7278	Reliabi	Mean 1 MTBCI 90 ability Inc	M:9] O% Conf Uppe Lowe dices	163 lidence l er Limit er Limit	Interva	ul 23256 4358		nce
Mean Time Between Failure Forced Shutdown (Forced Shutdown (MTBCMf: 22909 90% Confidence Into Upper Limit: Lower Limit: Lower Limit: Lower Limit: Corrective Maintenance Failure Events Only)	corrective Maintenderval 128938 7278	Reliabi	Mean 1 MTBC! 90 ability Inc	M:9] O% Conf Uppe Lowe dices	idence i er Limit er Limit er Limit	Interva	13256 4358		nce
Mean Time Between Fails (Forced Shutdown Common State of the State of	corrective Maintenderval 128938 7278	Reliabi	Mean 1 MTBC! 90 ability Inc Correct MTTR, MCMM	M:9] 0% Conf Uppe Lowe dices tive Main	idence i er Limit er Limit ntenance 2.8	Interva ::	1 23256 4358	nts)	nce
Mean Time Between Failure Forced Shutdown (Forced Shutdown (MTBCMf: 22909 90% Confidence Into Upper Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: Maintenance Failure Events Only) MTTRf: 1.0 MCMMf: 1.5 Max. Observed MH:	corrective Mainten	Reliabi	Mean 1 MTBC! 90 ability Inc Correct MTTR, MCMM	M:9] O% Conf Uppe Lowe dices tive Main	idence i er Limit er Limit ntenance 2.8 2.0 erved M	Interva ::	ul 23256 4358 All Ever	nts)	nce
Mean Time Between Fails (Forced Shutdown (MTBCM _f : 22909 90% Confidence Into Upper Limit: _ Lower Limit: _ Corrective Maintenance — Failure Events Only) MTTR _f : 1.0 MCMM _f : 1.5 Max. Observed MH: MCMM _f : 1.5	corrective Maintenderval 128938 7278 (Forced Shutdov	Reliabi	Mean 1 MTBCI 90 ability Inc Correct MTTR, MCMM M MCMM	M:9] O% Conf Uppe Lowe dices tive Main	idence international internati	Interva ::2 ::	13256 4358 4358	nts)	nce
Mean Time Between Failure Forced Shutdown (Forced Shutdown (MTBCMf: 22909 90% Confidence Into Upper Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: Maintenance Failure Events Only) MTTRf: 1.0 MCMMf: 1.5 Max. Observed MH:	corrective Maintenderval 128938 7278 (Forced Shutdov	Reliabi	Mean 1 MTBCI 90 ability Inc Correct MTTR, MCMM M MCMM	M:9] O% Conf Uppe Lowe dices tive Main	idence international internati	Interva ::2 ::	13256 4358 4358	nts)	nce
Mean Time Between Fails (Forced Shutdown (MTBCM _f : 22909 90% Confidence Into Upper Limit: _ Lower Limit: _ Corrective Maintenance — Failure Events Only) MTTR _f : 1.0 MCMM _f : 1.5 Max. Observed MH: MCMM _f : 1.5	corrective Maintenderval 128938 7278 (Forced Shutdov	Reliabi	Mean 1 MTBC! 90 ability Inc Correct MTTR, MCMM MCMM	M:9] O% Conf Uppe Lowe dices tive Main	idence interest inter	Interva ::2 ::	13256 4358 4358	nte)	iormal

Noun Name: Pump, Fresh Water Servi	ce
General Description: Pump, CTFGL 20 G	PM 50 PSI 3600 RPM MCC PRPHL
CID/APL Number(s): 016110037 *(1)	
Equipment Identification Code: AH17	
Technical Manual: 347-2343	
Manufacturer: 04579 Aurora Pump Div.	of New York Air Brake Co.
MSO 426, 432,435,437, 43 Ship Population: 466, 488, 490, 508, 521	Data Assessment Period: 7/1/67 - 6/30/69 C = 0.10
Total CM _f Repair Man-Hours: 239	Total CM Repair Man-Hours: 364
Maintenance Factors: 0.67	Total on repair man-rious.
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 3601 90% Confidence Interval Upper Limit: 5434 Lower Limit: 2478
Maintainab	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.9 MCMM _f : 6.7 Max. Observed MH: 95 MCMM _f : 29.8 Variance: 1689.3	MTTR _{cm} : 12.1 MCMM _{cm} : 4.0 Max. Observed MH: 95 MCMM _{cm} : 18.2 Variance: 936
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) 016 11 0068	

- OSEG
g, SSTG
35 GPM 15 PSI 1750 RPM MCC VLT
Federal Stock Number: None*
P23000/310E600
ew York Air Brake Co. 04579
Basic Data
Equip. Population/Ship: 4
Data Assessment Period: 7/1/67 - 6/30/69
25; C = 0.0
2650
O Corrective Maintenance Events (CM): 54
Total CM Repair Man-Hours:1686
.67
MTBCM: 1531
90% Confidence Interval
Upper Limit: 1944 Lower Limit: 1220
Lower Limit:
inability Indices
Corrective Maintenance — (All Events)
MTTR _{cm} :20.8
MCMM _{cm} : 8.2
Max. Observed MH: 224.3
MCMM _{cm} : 31.2
MCMM _{cm} : 31.2 Variance: 2004-5
Variance: 2004.5
cm ·

Total CM _f Repair Man-Hours:	OE600 Air Brake Co. 04579
AP23000/3 Technical Manual: 347-3100 Tanufacturer: Aurora Pump Div. of New York Basic Data Thip Population DDG 2,5,6,7,8,9,12,14* (2) Equip. Population in Data Base: 56 Utilization Factors: S: A = 0.40; B = 0.25; Total Equip. Operating Time (hours): 423037 Total Number of: Failures (CMf): 29 Total CMf Repair Man-Hours: 264 Maintenance Factors: Reliability Indi Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 14101 90% Confidence Interval	OE600 Air Brake Co. 04579
Basic Data Basic Data Chip Population. DDG 2,5,6,7,8,9,12,14* (2) Equip. Population in Data Base: 56 Citilization Factors: S: A = 0.40; B = 0.25; Cotal Equip. Operating Time (hours): 423037 Cotal Number of: Failures (CM _f): 29 Corrective Maintenance Factors: 0.67 MTBCM _f : 14101 Some Confidence Interval Lower Limit: 20387 Lower Limit: 20387 Lower Limit: 10698 MTTTR _f : 6.1 MCMM _f : 2.0 Max. Observed MH: 80.0	Air Brake Co. 04579
Basic Data Ship Population. DDG 2,5,6,7,8,9,12,14* (2) Equip. Population in Data Base: 56 Stillization Factors: S: A = 0.40; B = 0.25; Fotal Equip. Operating Time (hours): 423037 Fotal Number of: Failures (CM _f): 29 Fotal CM _f Repair Man-Hours: 0.67 Fotal CM _f Repair Man-Hours: 0.67 Reliability Indi Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14101 Forced Shutdown Corrective Maintenance) MTBCM _f : 10698 Maintainability Indi Corrective Maintenance - (Forced Shutdown Corrective Maintenance) Failure Events Only) MTTR _f : 6.1 MCMM _f : 2.0 Max. Observed MH: 80.0	guip Population/Ship: 4
Basic Data Ship Population DDG 2,5,6,7,8,9,12,14* (2) Equip. Population in Data Base:	guip Population/Ship: 4
Ship Population DDG 2,5,6,7,8,9,12,14* (2) Equip. Population in Data Base:	quip. Population/Ship: 4 ata Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base: 56 In Stillization Factors: S: A = 0.40; B = 0.25; Potal Equip. Operating Time (hours): 423037 Fotal Number of: Failures (CMf): 29 Corrective Maintenance Factors: 0.67 Reliability Individual Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 14101 MTBCMf: 20387 Lower Limit: 20387 Lower Limit: 10698 Maintainability Individual Maintenance (Forced Shutdown Corrective Maintenance) MTTRf: 6.1 MTTIME MCMMf: 2.0 MTTIME MCMMf: 2.0 MCMMf: 2.0 MCMMf: MCMMf: MCMMf: MCMMf: MCMMf: MCMMf: MCMMMf: MCMMMf: MCMMMf: MCMMMf: MCMMMf: MCMMMMCMMM	quip. Population/Ship: 4 ata Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base: 56 In Stillization Factors: S: A = 0.40; B = 0.25; Potal Equip. Operating Time (hours): 423037 Fotal Number of: Failures (CMf): 29 Corrective Maintenance Factors: 0.67 Reliability Individual Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 14101 MTBCMf: 20387 Lower Limit: 20387 Lower Limit: 10698 Maintainability Individual Maintenance (Forced Shutdown Corrective Maintenance) MTTRf: 6.1 MTTIME MCMMf: 2.0 MTTIME MCMMf: 2.0 MCMMf: 2.0 MCMMf: MCMMf: MCMMf: MCMMf: MCMMf: MCMMf: MCMMMf: MCMMMf: MCMMMf: MCMMMf: MCMMMf: MCMMMMCMMM	ata Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours):	and Hoseosment Person () = / = /
Total Equip. Operating Time (hours):	C = 0.0
Cotal Number of: Failures (CM _f):	
Total CM _f Repair Man-Hours:	tive Maintenance Events (CM): 135
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14101 MTBC 90% Confidence Interval Upper Limit: 20387 Lower Limit: 10698 Maintainability Individual Maintenance Maintainability Individual MTBC MTBCM _f : 4000 Maintenance Mean Mean Mean Maintainability Individual MTBC Maintainability Individual Maintenance Maintainability Individual MTBC MTBC MTBC MTC MTC MTC MTC MCM MTC MTC	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14101 MTBC 90% Confidence Interval Upper Limit: 20387 Lower Limit: 10698 Maintainability Interval Failure Events Only) MTTR _f : 6.1 MTTT MCMM _f : 2.0 MCM Max. Observed MH: 80.0	CM Repair Man-Hours: 2557
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14101 MTBC 90% Confidence Interval	es**
(Forced Shutdown Corrective Maintenance) MTBCM _f : 14101 MTBC 90% Confidence Interval	Fime Between Corrective Maintenance
MTBCM _f : 14101 MTBC 90% Confidence Interval	Time Between Corrective Maintenance
90% Confidence Interval Upper Limit: 20387 Lower Limit: 10698 Maintainability Interval Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.1 MCMM _f : 2.0 Max. Observed MH: 80.0	2124
Upper Limit: 20387 Lower Limit: 10698 Maintainability In Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.1 MCMM _f : 2.0 Max. Observed MH: 80.0	M: 3134
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.1 MTTI MCMM _f : 2.0 MCM Max. Observed MH: 80.0	0% Confidence Interval Upper Limit: 3632
Maintainability In Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.1	Lower Limit: 2716
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.1 MCMM _f : 2.0 Max. Observed MH: 80.0	Lower Limit.
Failure Events Only) MTTR _f : 6.1	dices
Failure Events Only) MTTR _f : 6.1	tive Maintenance — (All Events)
MCMM _f : 2.0 MCM Max. Observed MH: _80.0	
MCMM _f : 2.0 MCM Max. Observed MH: _80.0	cm: 12.6
man: outeries	6m 5.5
MCMM _f : 9.1	lax. Observed MH: 190.8
Variance: 292.6	lax. Observed MH:190.8
Indicated Distribution(s): Exponential	Max. Observed MH: 190.8 Mcm: 18.9 Variance: 862.7
*REMARKS: (1) (6-DCS-224 Rev. D); (2) 17	lax. Observed MH:190.8
lity indices developed for ARINC Resea	18.9 18.9

Noun Name: Pump, Fresh Water Servi	ce
General Description: Pump, CTFGL 40 G	
CID/APL Number(s): 016110273	Federal Stock Number: 6HCS392 Dwg.
Equipment Identification Code:AH17	The Table 1 and the Total State of the State
Technical Manual: None	A CONTRACTOR OF THE CONTRACTOR
Manufacturer: 04579 Aurora Pump Div.	of New York Air Brake Co.
All II	asic Data
Ship Population: DEG 4, 5	Equip. Population/Ship: 2 ea/DE
Equip. Population in Data Base: 4	Equip. Population/Ship: 2 ea/DE Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.50; B = 0.3	0; C = 0.10
Total Equip. Operating Time (hours):	15982
	Corrective Maintenance Events (CM):4
Total CM _f Repair Man-Hours: 2	Total CM Repair Man-Hours:12
Maintenance Factors: 0.67	The state of the s
Relia Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7964 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7964 90% Confidence Interval Upper Limit: 44823	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval Upper Limit: 11658
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7964 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7964 90% Confidence Interval Upper Limit: 44823 Lower Limit: 2530	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval Upper Limit: 11658
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7964 90% Confidence Interval Upper Limit: 44823 Lower Limit: 2530 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7964 90% Confidence Interval Upper Limit: 44823 Lower Limit: 2530 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.7	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval Upper Limit: 11658 Lower Limit: 1740 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval Upper Limit: 11658 Lower Limit: 1740 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.0 MCMM _{cm} : 1.3 Max. Observed MH: 9 MCMM _{cm} : 3.1
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 3982 90% Confidence Interval

Dump Brook Motor Co	W. 4
Noun Name: Pump, Fresh Water Se General Description: Pump, CTFGL 6	O GPM 75 PSI 3500 RPM MCC VLT
General Description:	GOD 279 Dec
	Federal Stock Number: GCP-378 Dwg.
Equipment identification code.	H17
Technical Manual: 347-3594	
Manufacturer: 16062 Davidson M. T.	Co.
	Basic Data
Ship Population, DIG 8,9,10,11,14,18,19,20	,22,23 Equip. Population/Ship: 2 ea/DLG
Fauin Population in Data Rase: 2	0 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.50; B =	0 Data Assessment Period: 7/1/67 - 6/30/69 0.30; C = 0.10
Total Equip. Operating Time (hours):	112250
Total Number of: Failures (CMa): 3	Corrective Maintenance Events (CM): 22
Total CM _f Repair Man-Hours: 13.5	Total CM Repair Man-Hours:395
Maintenance Factors:	.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 37416 90% Confidence Interval Upper Limit: 137275 Lower Limit: 14477	MTBCM:
Main	tainability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance - (All Events)
Failure Events Only)	
MTTR _f :3.0	MTTR _{cm} :
MCMM _f : 4.5	MCMM _{cm} :
Max. Observed MH:8	Max. Observed MH: 151
MCMM _f : 4.5	MCMM _{cm} : 18.0
Variance: 12.3	Variance: 1032
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	Normal Log Normal

Noun Name: Pump, Fresh Water Service	ce de la companya de
General Description: Pump, CTFGL 125	GPM 65 PSI 3500 RPM MCC VLT
CID/APL Number(s): 016120216	
Equipment Identification Code: AH17	
Technical Manual: None	Thomas Andrews
Manufacturer: 16062 Davidson, M. T. Co	o.
Basi	ic Data
Ship Population: LPD 4, 5, 6	Equip. Population/Ship: 2 ea/LPD
Equip. Population in Data Base: 6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: $A = 0.50$; $B = 0.50$;	C = 0.50
Total Equip. Operating Time (hours): 5263	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
Total CMc Renair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors: 0.67	
MTBCM _f : 75932** 90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 16020
Lower Limit:	Lower Limit: 4003
10W3: 2/11W1	
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : O	MTTR _{cm} : 2.8
MCMM _f :O	MCMM _{cm} : 2.5
Max. Observed MH:O	Max. Observed MH: 20
MCMM _f :	MCMM _{cm} : 4.2
Variance:	Variance: 50
Indicated Distribution(s): Exponential	Normal Log Normal
	operating time for an equipment in
this study is 10092 hours.	

Noun Name: Pump, Main Feed Booste	r mad seems as as an a
General Description: Pump CTFGL, 330	GPM 35 PSI 1170 RPM MD VLT
CID/APL Number(s): 016150304	Federal Stock Number: 254320-391-9185
	000/F308100
Equipment Identification Code: ZQ02 Technical Manual: 347-1842	
Manufacturer: Buffalo Pumps Div. of	Buffalo Forge Co. 83130
Ba	sic Data
Ship Population: DE 1006, 1014, 1028,*	(1) Equip Population/Ship: 2
Equip Population in Data Base: 10	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.55; B = 0.5	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours): 4175	4
Total Number of: Failures (CM _f): 10	Corrective Maintenance Events (CM): 30
Total CM _f Papair Man-Hours: 57	Total CM Repair Man-Hours: 571
Maintenance Factors: 0.67	Total Col Repair Mail-Hours.
MTBCM _f : 4175 90% Confidence Interval Upper Limit: 7694 Lower Limit: 2461	MTBCM:1392 90% Confidence Interval Upper Limit:1933 Lower Limit:1026
	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :3.8	MTTR _{cm} :12.7
The state of the s	7 0
MCMM _f :3.0	MCMM _{cm} : 7.0
MCMM _f : 3.0 Max. Observed MH: 26	Max. Observed MH: 78
MCMM _f :3.0 Max. Observed MH:26 MCMM _f :5.7	Max. Observed MH: 78 MCMM _{cm} : 19.0
MCMM _f : 3.0 Max. Observed MH: 26	Max. Observed MH: 78
MCMM _f : 3.0 Max. Observed MH: 26 MCMM _f : 5.7 Variance: 55 Indicated Distribution (s): Exponential	Max. Observed MH:
MCMM _f : 3.0 Max. Observed MH: 26 MCMM _f : 5.7 Variance: 55	Max. Observed MH:

CID/APL Number(s): 016150304	170 RPM Vertical Mounting Single Stage Federal Stock Number: 254320-391-9185
Equipment Identification Code: ZQ02000	
Technical Manual: 347-1842	despeta translati
Manufacturer: Buffalo Pumps Division	
Ba	asic Data
Ship Population: DE 1025, 1026, 1027, *(2	Equip. Population/Ship:
Equip. Population in Data Base: 12 Pumps	Data Assessment Period: Jan 67-July 69
Utilization Factors: 0.49 (1A Boiler Hrs	s) Plus 0.51 (1B Boiler Hrs)
Total Equip. Operating Time (hours): 5421	3.1
Total Number of: Failures (CM _f): 13	Corrective Maintenance Events (CM):29
Total CMs Repair Man-Hours: 187.4	Total CM Repair Man-Hours:671.3
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 4170.2 90% Confidence Interval Upper Limit: 7040.7	MTBCM: 1869.4 90% Confidence Interval Upper Limit: 2612.7
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval Upper Limit: 7040.7 Lower Limit: 2625.3	MTBCM:1869.4 90% Confidence Interval Upper Limit:2612.7 Lower Limit:1370.7
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval Upper Limit: 7040.7 Lower Limit: 2625.3 Maintain	MTBCM: 1869.4 90% Confidence Interval Upper Limit: 2612.7 Lower Limit: 1370.7 nability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval	MTBCM:1869.4 90% Confidence Interval Upper Limit:2612.7 Lower Limit:1370.7
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval Upper Limit: 7040.7 Lower Limit: 2625.3 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 1869.4 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval	MTBCM: 1869.4 90% Confidence Interval Upper Limit: 2612.7 Lower Limit: 1370.7 nability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval	MTBCM: 1869.4 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval	MTBCM: 1869.4 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4170.2 90% Confidence Interval	MTBCM:

Noun Name: Pump, Main Condensate	
General Description: Pump CTFGL, 16	5 GPM 70 PSI 1750 RPM MD VLT
CID/API Number(s): 016150313	Federal Stock Number: None* (1)
Equipment Identification Code: ZQ	01000/F309100
Equipment Identification Code: ZQ Technical Manual: 347-1951	A SECOND DESCRIPTION OF A SECO
Manufacturer: Buffalo Pumps Div. of	Buffalo Forge Co. 83130
	asic Data
Ship Population: LSD 31, 33, 34, 35	Equip. Population/Ship: 4
Equip Population in Data Base: 16	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: $S: A = 0.52; B = 0.2$	5; C = 0.00
Total Equip. Operating Time (hours):745	61
Total Number of: Failures (CM _f): 11	Corrective Maintenance Events (CM): 29
Total CM _f Repair Man-Hours: 719	Total CM Repair Man-Hours:
Maintenance Factors: 0.6	7
(Forced Shutdown Corrective Maintenance) MTBCM _f : 6778 90% Confidence Interval Upper Limit: 12084 Lower Limit: 4095	M r BCM: 2571 90% Confi nce Interval Ur mit: 3593 I mit: 1885
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 43.6 MCMMf: 12.2 Max. Observed MH: 564 MCMMf: 65.4 27583	MTTR _{cm} : 22.4 MCMM _{cm} : 4.6 Max. Observed MH: 564 MCMM _{cm} : 33.7 Verience: 10986
Indicated Distribution(s): Exponential	Normal Log Normal Log Normal Log Normal 233-02-3-1153, dated December 1971

	480 GPM 65 PSI 1150 RPM MD VLT
CID/APL Number(s): 016150319	Federal Stock Number: None - (CA-8082)
Equipment Identification Code:	ZQ02000/F308100
Technical Manual: 347-2643	Supplied to the supplied of th
	nps Div. of Buffalo Forge Co.
	Basic Data
Ship Fopulation: DD 938, 941, 94	2. 945. *(1) Equip. Population/Ship: 4/DD; 4/DDG
	28 Data Assessment Period: 7/1/67 - 6/30/6
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	
Total CM _f Repair Man-Hours: 255	Total CM Repair Man-Hours: 1355
Maintenance Factors:	0.67
	Reliability Indices**
Mean Time Between Failure (Forced Shutdown Corrective Mainten	
MTBCM _f : 7024	MTBCM:1756
90% Confidence Interval	90% Confidence Interval
Upper Limit: 11021 Lower Limit: 4682	
201101 21111111	
	Maintainability Indices
Corrective Maintenance — (Forced Shutdov Failure Events Only)	wn Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f : 9.4	wn Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f : 9.4	wn Corrective Maintenance — (All Events) MTTR _{cm} : 13.3
Failure Events Only) MTTR _f : 9.4 MCMM _f : 3.5 Max. Observed MH: 60.0	wn Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f : 9.4 MCMM _f : 3.5 Max. Observed MH: 60.0	MTTR _{cm} : 13.3 MCMM _{cm} : 5.6 Max. Observed MH: 300.0 MCMM _{cm} : 19.9
Failure Events Only) MTTR _f : 9.4 MCMM _f : 3.5	wn Corrective Maintenance — (All Events) MTTR _{cm} : 13.3 MCMM _{cm} : 5.6
Failure Events Only) MTTR _f :9.4 MCMM _f :3.5 Max. Observed MH:60.0 MCMM _f :14.1	MTTR _{cm} : 13.3 MCMM _{cm} : 5.6 Max. Observed MH: 300.0 MCMM _{cm} : 19.9 Variance: 1669
Failure Events Only) MTTR _f : 9.4 MCMM _f : 3.5 Max. Observed MH: 60.0 MCMM _f : 14.1 Variance: 358 Indicated Distribution(s): Exponential *REMARKS: (1) DDG 8, 31, 32;	MTTR _{cm} : 13.3 MCMM _{cm} : 5.6 Max. Observed MH: 300.0 MCMM _{cm} : 19.9 Variance: 1669

Noun Name: _ Pump, Main Feed Booster	
eneral Description: Pump, CTFGL, 480 G	PM 65 PSI 1150 RPM VLT
	Federal Stock Number: None - (CA-8400)
Equipment Identification Code: ZQ020	
Cechnical Manual: 347-3227	
Manufacturer: 83130 Buffalo Pumps Div.	of Buffalo Forge Co.
Bas	sic Data
Ship Population: DD 948, 951/DDG2, *(1	Equip. Population/Ship: 4/DD; 6/DDG
	Data Assessment Period: 7/1/67 - 6/30/69
	= 0.27; C = 0.00; / DDG *(2)
Total Equip. Operating Time (hours): 37087	
	Corrective Maintenance Events (CM): 215
집에서 기계하다 내는 그리고 아름다면 하고 있다면서 모양을 하는데 되었다. 그리고 있는데 하고 있다면 하는데 하다.	Total CM Repair Man-Hours: 4742
Maintenance Factors:0.67	Total CM Repair Man-Hours:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 1725
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134	Mean Time Between Corrective Maintenance MTBCM: 1725 90% Confidence Interval Upper Limit: 1937
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134 Lower Limit: 3566	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134 Lower Limit: 3566 Maintain	Mean Time Between Corrective Maintenance MTBCM: 1725 90% Confidence Interval Upper Limit: 1937 Lower Limit: 1541
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134 Lower Limit: 3566 Maintain	Mean Time Between Corrective Maintenance MTBCM: 1725 90% Confidence Interval Upper Limit: 1937 Lower Limit: 1541 ability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134 Lower Limit: 3566 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4	Mean Time Between Corrective Maintenance MTBCM: 1725 90% Confidence Interval Upper Limit: 1937 Lower Limit: 1541 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134 Lower Limit: 3566 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4 MCMM _f : 3.5	Mean Time Between Corrective Maintenance MTBCM: 1725 90% Confidence Interval Upper Limit: 1937 Lower Limit: 1541 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.7 MCMM _{cm} : 5.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134 Lower Limit: 3566 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4 MCMM _f : 3.5 Max. Observed MH: 127.0	Mean Time Between Corrective Maintenance MTBCM: 1725 90% Confidence Interval Upper Limit: 1937 Lower Limit: 1541 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.7 MCMM _{cm} : 5.0 Max. Observed MH: 516.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134 Lower Limit: 3566 Maintaina Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4 MCMM _f : 3.5 Max. Observed MH: 127.0 MCMM _f : 12.6	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :4263 90% Confidence Interval Upper Limit:5134 Lower Limit:3566 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :8.4 MCMM _f :3.5 Max. Observed MH:127.0	Mean Time Between Corrective Maintenance MTBCM: 1725 90% Confidence Interval Upper Limit: 1937 Lower Limit: 1541 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.7 MCMM _{cm} : 5.0 Max. Observed MH: 516.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4263 90% Confidence Interval Upper Limit: 5134 Lower Limit: 3566 Maintaina Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4 MCMM _f : 3.5 Max. Observed MH: 127.0 MCMM _f : 12.6	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name:Pump, Main Feed Booster	
General Description: Pump CTFGL, 490 G	PM 65 PSI 1150 RPM MD VLT
CID/APL Number(s): 016150378	
	00/F308100
Technical Manual: 347-3684	The second temperature of the second temperature of the second se
Manufacturer: 83130 Buffalo Pumps Div	of Buffalo Forge Co.
	asic Data
Ship Population: DLG 18, 19, 20, 22, 2	3, *(2) Equip. Population/Ship: 6
Equip. Population in Data Base: 66	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.60; B = 0.	
Total Equip. Operating Time (hours): 43848	
Total Number of: Failures (CM _f): 39	Corrective Maintenance Events (CM): 90
Total CM _f Repair Man-Hours: 489	Total CM Repair Man-Hours: 1479
Maintenance Factors: 0.67	Profes Companyorist
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11243 90% Confidence Interval Upper Limit: 14953	Mean Time Between Corrective Maintenance MTBCM: 4872 90% Confidence Interval Upper Limit: 5848
Lower Limit: 8608	Lower Limit: 4088
	inability Indices Corrective Maintenance — (All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Confective manifematice — (All Events)
MTTR _f :8.4	MTTR _{cm} : 11.1
MCMM _f : 2.0	MCMM _{cm} : 4.0
Max. Observed MH: 190.0	Max. Observed MH: 190.0
MCMM _f :13.0 Variance: 1133	MCMM _{cm} : 16,6 Variance: 907
Indicated Distribution (s): Exponential	Normal Log NormalX
indices developed for ARINC Rese	29, 30, 31, 32, 33 **Reliability arch Publication 933-02-3-1153, dated
December 1971	

Noun Name: Pump, Main Condensate	
General Description: Pump CTFGL, 430	GPM 60 PST 1150 RPM MD VLT
ID/APL Number(s): 016150379	Federal Stock Number: None - (CA-9087)
Equipment Identification Code: ZQ0100	00 /F309100
Technical Manual: 347-3683	The state of the s
Manufacturer: 83130 Buffalo Pumps Di	v. of Buffalo Forge Co.
В	asic Data
Ship Population: DLG 18, 19, 22, 23, 28	*(1) Equip. Population/Ship: 4
Equip. Population in Data Base: 40	Data Assessment Period: 7/1/67 - 6/30/69 33; C = 0.00
Utilization Factors: S: A = 0.07; B = 0.	33; C = 0.00
Total Equip. Operating Time (hours): 2764	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):60
Total CM _f Repair Man-Hours: 145	Total CM Repair Man-Hours:
Maintenance Factors: 0.67	**************************************
(Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 18429 90% Confidence Interval	MTBCM: 4607 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 18429	MTBCM: 4607
(Forced Shutdown Corrective Maintenance) MTBCM _f : 18429 90% Confidence Interval Upper Limit: 29886 Lower Limit: 11967	MTBCM: 4607 90% Confidence Interval Upper Limit: 5777
(Forced Shutdown Corrective Maintenance) MTBCM _f : 18429 90% Confidence Interval Upper Limit: 29886 Lower Limit: 11967 Maintai	MTBCM: 4607 90% Confidence Interval Upper Limit: 5777 Lower Limit: 3716
(Forced Shutdown Corrective Maintenance) MTBCM _f : 18429 90% Confidence Interval	MTBCM:90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 18429 90% Confidence Interval Upper Limit: 29886 Lower Limit: 11967 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.4	MTBCM: 4607 90% Confidence Interval Upper Limit: 5777 Lower Limit: 3716 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

Noun Name: Pump, Condensate,	SSTG
General Description: Pump CTFGL,	430 GPM 60 PSI 1150 RPM MD VLT
CID/API Number(a): 016150391	Federal Stock Number: 4320-847-7252
CID/AFL Number(s):	AP28000/310F700
Equipment Identification Code:	AT ZOOOO/ STOE/ OO
Technical Manual: 347-3606	- A D. 44-1 - D
Manufacturer: Buffalo Pumps Div.	of Buffalo Forge Co. 83130
	Basic Data
Ship Population: DLG 18, 19, 20,	22, 23 Equip. Population/Ship: 4
Equip. Population in Data Base:	20 Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.40; B	= 0.25; C = 0.0
Total Equip. Operating Time (urs):	02060
	12 Corrective Maintenance Events (CM): 39
Total CM _f Repair Man-Hours:	
Maintenance Factors:	0.67 Total CM Repair Man-Hours: 737
(Forced Shutdown Corrective Maintenand MTBCM _f : 6989	MTBCM:2150
90% Confidence Interval	90% Confidence Interval
Upper Limit: 12101	Upper Limit:2859
Lower Limit: 4314	Lower Limit: 1646
M	aintainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f : 3.8	MTTR _{cm} : 13.3
MCMM _f : 2.5	MCMM _{cm} : 6.6
Max. Observed MH: 24	Max. Observed MH: 173
MCMM _f :5.8	MCMM _{cm} : 19.9
Variance:59.3	Variance: 1104
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS. Reliability indices of	developed for ARINC Research Publication
933-02-3-1153, dated December	
	-41-

Jeneral Description.	, 25 GPM 75 PSI 3500 RPM MD VLT
CID/APL Number(s): 016160002	Federal Stock Number: 4320-375-1848
Equipment Identification Code:	AP28000/301E700
Technical Manual: 347-0547	
Manufacturer: 16712 DeLaval Tur	rbine, Inc.
	Basic Data
	3, 723, *(1) Equip. Population/Ship: 2
	92 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: $A = 0.86$; F	3 = 0.52; C = 0.00
Total Equip. Operating Time (hours):	(33300
	31 Corrective Maintenance Events (CM): 103
Fotal CM _f Repair Man-Hours: 322	Total CM Repair Man-Hours: 1583
Maintenance Factors:	0.67
(Forced Shutdown Corrective Mainter	Company of the Compan
	MTBCM: 7120
MTBCM _f : 23657 90% Confidence Interval Upper Limit: 32663	90% Confidence Interval Upper Limit: 8440
90% Confidence Interval Upper Limit: 32663 Lower Limit: 17526	90% Confidence Interval Upper Limit: 8440 Lower Limit: 6045 Maintainability Indices
90% Confidence Interval Upper Limit: 32663 Lower Limit: 17526 Corrective Maintenance — (Forced Shutdon Failure Events Only)	90% Confidence Interval Upper Limit: 8440 Lower Limit: 6045 Maintainability Indices wn Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 32663 Lower Limit: 17526 Corrective Maintenance — (Forced Shutdon Failure Events Only) MTTR _f : 6.9	MTBCM: 7120 90% Confidence Interval Upper Limit: 8440 Lower Limit: 6045 Maintainability Indices wn Corrective Maintenance — (All Events) MTTR _{cm} : 10.2
90% Confidence Interval Upper Limit: 32663 Lower Limit: 17526 Corrective Maintenance — (Forced Shutdon Failure Events Only) MTTR _f : 6.9 MCMM _f : 2.0	MTBCM: 7120 90% Confidence Interval Upper Limit: 8440 Lower Limit: 6045 Maintainability Indices wn Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.8
90% Confidence Interval	MTBCM: 7120 90% Confidence Interval Upper Limit: 8440 Lower Limit: 6045 Maintainability Indices wn Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.8 Max. Observed MH: 189.6
90% Confidence Interval Upper Limit: 32663 Lower Limit: 17526 Corrective Maintenance — (Forced Shutdon Failure Events Only) MTTR _f : 6.9 MCMM _f : 2.0 Max. Observed MH: 189.6	MTBCM: 7120 90% Confidence Interval Upper Limit: 8440 Lower Limit: 6045 Maintainability Indices wn Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.8
MTBCM _f :	MTBCM: 7120 90% Confidence Interval Upper Limit: 8440 Lower Limit: 6045 Maintainability Indices wn Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.8 Max. Observed MH: 189.6 MCMM _{cm} : 15.4 Variance: 1583
MTBCM _f :	MTBCM: 7120 90% Confidence Interval Upper Limit: 8440 Lower Limit: 6045 Maintainability Indices wn Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.8 Max. Observed MH: 189.6 MCMM _{cm} : 15.4 Variance: 1583

CONTINUATION SHEET

SHIPBOARD MACHINERY RELIABILITY AND MAINTAINABILITY DATA BANK

B 1 1 04 1 March 1 1
Federal Stock Number:
<u> 194508 </u>
1 385 1 Shiroha 1 150 22 30
asic Data
Equip. Population/Ship:
Data Assessment Period: 7/1/67 - 6/30/69
STATES OF PROPERTY OF STATES
Corrective Maintenance Events (CM):
Total CM Repair Man-Hours:
MTBCM:
Upper Limit:
Lower Limit:
nability Indices
Corrective Maintenance — (All Events)
MTTR _{cm} :
MCMM _{cm} :
Max. Observed MH:
MCMM _{cm} :
Variance:
Normal Log Normal
veloped for ARINC Research Publication

Noun Name: Pump, Main Conden	sate	
		57 PSI 1145 RPM TRD VLT
CID/APL Number(s): 016160012,		ederal Stock Number: 4320-267-316,0.1.4,7*(2
		7309100
Technical Manual: 347-0974 Manufacturer: DeLaval Turbine,		
Manufacturer: Debayar rurbine,	THE.	
	Basic Da	ata
Ship Population: DD697,709,716,718	,723,*(3)	Equip. Population/Ship: 4
		Data Assessment Period: 7/1/67 - 6/30/69
		2 = 0.00
Total Equip. Operating Time (hours):		
		prrective Maintenance Events (CM): 702
Total CM _f Repair Man-Hours: 3289	То	otal CM Repair Man-Hours: 14956
Maintenance Factors:	0.67	
Mean Time Between Failure (Forced Shutdown Corrective Mainten	Me	ean Time Between Corrective Maintenance
(Forced Shutdown Corrective Mainten	Me nance)	ean Time Between Corrective Maintenance
(Forced Shutdown Corrective Mainten MTBCM _f : 3895	Me nance)	ean Time Between Corrective Maintenance FBCM: 1293
(Forced Shutdown Corrective Mainten MTBCM _f : 3895 90% Confidence Interval	Me nance) MT	PBCM: 1293 90% Confidence Interval
(Forced Shutdown Corrective Mainten	Me nance) MT	ean Time Between Corrective Maintenance FBCM: 1293
(Forced Shutdown Corrective Mainten MTBCM _f : 3895 90% Confidence Interval Upper Limit: 4353	Me nance) MT	PBCM: 1293 90% Confidence Interval Upper Limit: 1377 Lower Limit: 1214
(Forced Shutdown Corrective Mainten MTBCM _f : 3895 90% Confidence Interval Upper Limit: 4353 Lower Limit: 3494 Corrective Maintenance — (Forced Shutdow Failure Events Only)	Menance) Minance) Minance) Maintainability Vn Co	PBCM: 1293 90% Confidence Interval Upper Limit: 1377 Lower Limit: 1214 y Indices Prective Maintenance — (All Events)
(Forced Shutdown Corrective Mainten MTBCM _f : 3895 90% Confidence Interval Upper Limit: 4353 Lower Limit: 3494 Corrective Maintenance — (Forced Shutdow Failure Events Only) MTTR _f : 9.3	Menance) Minance) Maintainability Maintainability	PBCM: 1293 90% Confidence Interval Upper Limit: 1377 Lower Limit: 1214 y Indices PTR _{cm} : 14.2
(Forced Shutdown Corrective Mainten MTBCM _f :	Menance) Minance) Maintainability Maintainability	PBCM: 1293 90% Confidence Interval Upper Limit: 1377 Lower Limit: 1214 y Indices PTR _{cm} : 14.2 CMM _{cm} : 3.2
(Forced Shutdown Corrective Mainten MTBCM _f :3895 90% Confidence Interval Upper Limit:4353 Lower Limit:3494 Corrective Maintenance — (Forced Shutdow Failure Events Only) MTTR _f :9.3 MCMM _f :2.0 Max. Observed MH: 280.0	Menance) Maintainability Vn Co Mill MC	PBCM: 1293 90% Confidence Interval Upper Limit: 1377 Lower Limit: 1214 y Indices PTR _{cm} : 14.2 CMM _{cm} : 3.2 Max. Observed MH: 280.0
(Forced Shutdown Corrective Mainten MTBCM _f : 3895 90% Confidence Interval Upper Limit: 4353 Lower Limit: 3494 Corrective Maintenance — (Forced Shutdow Failure Events Only) MTTR _f : 9.3 MCMM _f : 2.0 Max. Observed MH: 280.0 MCMM _f : 13.9	Menance) Maintainability Vn Co Mill MC	Pan Time Between Corrective Maintenance 1293 90% Confidence Interval Upper Limit:1377 Lower Limit:1214 y Indices PTR _{cm} :14.2 CMM _{cm} :3.2 Max. Observed MH:280.0
(Forced Shutdown Corrective Mainten MTBCM _f :3895 90% Confidence Interval Upper Limit:4353 Lower Limit:3494 Corrective Maintenance — (Forced Shutdow Failure Events Only) MTTR _f :9.3 MCMM _f :2.0 Max. Observed MH: 280.0	Menance) Maintainability Vn Co Mill MC	PBCM: 1293 90% Confidence Interval Upper Limit: 1377 Lower Limit: 1214 y Indices PTR _{cm} : 14.2 CMM _{cm} : 3.2 Max. Observed MH: 280.0
(Forced Shutdown Corrective Mainten MTBCM _f : 3895 90% Confidence Interval Upper Limit: 4353 Lower Limit: 3494 Corrective Maintenance — (Forced Shutdow Failure Events Only) MTTR _f : 9.3 MCMM _f : 2.0 Max. Observed MH: 280.0 MCMM _f : 13.9	Maintainability vn Co MT	Pan Time Between Corrective Maintenance 1293 90% Confidence Interval Upper Limit:1377 Lower Limit:1214 y Indices PTR _{cm} :14.2 CMM _{cm} :3.2 Max. Observed MH:280.0
(Forced Shutdown Corrective Mainten MTBCM _f :	Maintainability vn Co	PBCM: 1293 90% Confidence Interval Upper Limit: 1377 Lower Limit: 1214 y Indices PTR _{cm} : 14.2 CMM _{cm} : 3.2 Max. Observed MH: 280.0 CMM _{cm} : 21.3 Variance: 1598 Normal Log Normal X
(Forced Shutdown Corrective Mainten MTBCM _f :	Maintainability Maintainability Maintainability Maintainability Maintainability Maintainability Maintainability	Pan Time Between Corrective Maintenance 1293 90% Confidence Interval

CONTINUATION SHEET

SHIPBOARD MACHINERY RELIABILITY AND MAINTAINABILITY DATA BANK

on/Ship: Period: 7/1/67 - 6/30/69 ce Events (CM):
on/Ship:
on/Ship:
on/Ship:
on/Ship: Period: 7/1/67 - 6/30/69 ce Events (CM):
Period: 7/1/67 - 6/30/69 ce Events (CM):
Period: 7/1/67 - 6/30/69 ce Events (CM):
Period: 7/1/67 - 6/30/69 ce Events (CM):
ce Events (CM):
ce Events (CM):
ce Events (CM):
-Hours:
Orderstine Maintenance
Garage Maintenance
a w M-1-4
Corrective Maintenance
Collective Manifestance
_8588ыстети.
Interval
t:
t:
ce — (All Events)
MITRY
196141Mg
ин:
24 - 12 A
SUS — sonstra?
Log Normal
80, 881, 884, 885, 886
ni ni

Noun Name: Pump, Main Feed	
General Description: Pump CTFGL.	300 GPM 575 RPM 4000 RPM TD VLT
CID/APL Number(s): 016160030	Federal Stock Number: None - (E-16126C)
Equipment Identification Code:	ZQ03000/F303100
Technical Manual: 347-0086	The second secon
Manufacturer: 16712 DeLaval Turk	bine, Inc.
	Basic Data
Ship Population: AO 52, 53, 54, 55,	56, *(1) Equip. Population/Ship: 2
Equip. Population in Data Base:	24 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00; B	
Total Equip. Operating Time (hours):	188959
	27 Corrective Maintenance Events (CM): 90
Total CMe Repair Man-Hours: 189	Total CM Repair Man-Hours: 1503
Maintenance Factors:	
MTBCM _f : 6998 90% Confidence Interval Upper Limit: 9911 Lower Limit: 5074	MTBCM:
M.	faintainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 4.7	MTTR _{cm} :11.1
MCMM _f : 2.0	MCMM _{cm} : 2.0
Max. Observed MH: _60.0	Max. Observed MH:350.0
MCMM _f : 7.0	MCMM _{cm} :16.7
Variance: 202	Variance: 1981
Indicated Distribution(s): Exponential	Normal Log Normal
	63. 64. 97 **Reliability indices
	Publication 933-02-3-1153, dated
December 1971	

Equipment Identification

	Identification
Noun Name: Pump, Main Feed	DN GGC DGT COOL DDV DVG VICE
General Description: Pump CTFGL, 425 G	
	Federal Stock Number: None - (G10228)
	00/F303100
Technical Manual: 347-0973	Control Control
Manufacturer: 16712 DeLaval Turbine,	Inc.
	c Data
Ship Population: DD 697, 709, 718, 723,	
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: $A = 0.51$; $B = 0.2$	
Total Equip. Operating Time (hours): 90766	4
Total Number of: Failures (CM _f): 329	Corrective Maintenance Events (CM): 783
Total CMs Repair Man-Hours: 5535	Total CM Repair Man-Hours: 13498
Maintenance Factors: 0.67	
	Man Time Returns Competing Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 2759	MTBCM:1159
90% Confidence Interval	90% Confidence Interval
Upper Limit:3028	Upper Limit: 1231
Lower Limit: 2518	Lower Limit: 1092
	bility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	11.6
MTTR _f : 11.1	MTTR _{cm} :1.5
MCMM _f : 2.5	MCMM _{cm} : 2.5 Max. Observed MH: 999
Max. Observed MH: 999	
MCMM _f : 16.6	MCMM _{cm} : 17.2 Variance: 5409
Variance:6701	variance: 1409
Indicated Distribution(s): Exponential	Normal Log Normal
	746, 755, 758, 759, 760, 780, 781, 782,
783, 786, 787, 789, 790, 806, 818,	819, 820, 826, 830, 832, 836, 837, 839,
840, 851, 852, 864, 870, 871, 875,	876, 877, 880, 881, 884, 885, 886, 888,
808	-61

CONTINUATION SHEET

SHIPBOARD MACHINERY RELIABILITY AND MAINTAINABILITY DATA BANK

Noun Name: Pump, Main Feed	The second secon
General Description:016160035	
	Federal Stock Number:
Equipment Identification Code:	
Technical Manual:	
Manufacturer:	
Access to the second se	Basic Data
Ship Population:	Equip. Population/Ship:
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:	
Total Equip. Operating Time (hours):	SERVE AND REPORT OF THE PROPERTY OF THE PROPER
Total Number of: Failures (CMf):	Corrective Maintenance Events (CM):
Total CMe Repair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f :	MTBCM:
90% Confidence Interval	90% Confidence Interval
Upper Limit:	Upper Limit:
Lower Limit:	Lower Limit:
. Maintai	inability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :	MTTR _{cm} :
MCMM _f :	MCMM _{cm} :
Max. Observed MH:	Max. Observed MH:
MCMM _f :	MCMM _{cm} :
Variance:	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: **Reliability indices	developed for ARINC Research Publica-
tion 933-02-3-1153, dated Decemb	er 1971

Noun Name: Pump, General Description:	Pump CTEGI.	455 (PM 2	5 PST	114	5 RPN	קיד ז	D VI.T		
General Description:	016160020	427	Fodoral	Stock N	Jumber	Nor	-	(G-10	080)	_
Equipment Identification Confection Confection			7007 F 30							
Manufacturer: 16712										
Manufacturer:	Debavar fur	DINC,	1.10.							_
		Regio	Data							
Ship Population: DD 697,	709, 716,	718,	(1) Eq	uip. Pop	oulation	/Ship:	4			_
Equip. Population in Data Be	ase:	192	Dat	ta Asses	sment I	Period:	7/1/0	67 - 1	6/30/0	59
Utilization Factors: S:	A = 0.50; B	= 0.3	33; C =	= 0.0	0					_
Total Equip. Operating Time	(hours):	92521	.2					705		_
Total Number of: Failure										
Total CM _f Repair Man-Hour	: 1785	BATT _	Total Cl	M Repa	ir Man-l	Hours:	992	0		_
Maintenance Factors:		0.67								_
		Reliabili	ty Indice	8						
M. D. D. D. D. D. Illians			Moon Ti	ma Bat	ween C	arrectiv	e Mein	tenance		
	ective Maintenan	ce)	Mean Ti	me Bet	ween C	orrectiv	e Main	tenance		
(Forced Shutdown Corn		œ)	100		en 1 1 40 s			tenance		
(Forced Shutdown Corn MTBCM _f : 3531		ce)	мтвсм	maall	13	12	-	tenance		
MTBCM _f : 3531		œ)	мтвсм	i: % Confi	13	12 nterval				
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interva	al 3921	ce)	MTBCM	i: % Confi Uppe	13 idence I r Limit:	12 nterval	— 139	8		
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Intervs	al 3921	œ)	MTBCM	i: % Confi Uppe	13	12 nterval	— 139	8		
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interva	3921 3187		MTBCM	i: % Confi Uppe Lowe	13 idence I r Limit:	12 nterval	— 139	8		
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interve Upper Limit: Lower Limit:	3921 3187	aintainat	MTBCM 909 bility Indi	% Confi Uppe Lowe	13 idence I r Limit	12nterval		<u>8</u> 3		
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interva Upper Limit: Lower Limit:	3921 3187 M	aintainat	MTBCM 909 bility Indi	% Confi Uppe Lowe ices	13 idence I r Limit r Limit	12	139 123	<u>8</u> 3		
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interva Upper Limit: Lower Limit: Corrective Maintenance — (F	3921 3187 M	aintainat	MTBCM 909 bility Indi Correcti MTTR	% Confi Uppe Lowe ices	13 idence I ir Limit ir Limit	12	139 123	<u>8</u> 3		
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interva Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 4.5	3921 3187 M	aintainat	MTBCM 909 pility Indi Correcti MTTR _{ct} MCMM	% Confi Uppe Lowe ices	13 idence I r Limit r Limit	12 nterval : :(Al	139 123	8 3		
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interva Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 4.5	3921 3187 M	aintainat	MTBCM 909 pility Indi Correcti MTTR _{CI} MCMM Ma	% Confi Uppe Lowe ices ive Main m:————————————————————————————————————	dence I r Limit r Limit	12	139 123	8 3	38130 38130 38134 38134	
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 4.5 MCMM _f : 2.0 Max. Observed MH: MCMM _f : 6.8	al 3921 3187 M	aintainat	MTBCM 909 pility Indi Correcti MTTR CMCMM Ma	% Confi Uppe Lowe ices ive Main	13 idence I r Limit r Limit atenance 9. 2. erved Mi 14.	12	139 123	8 3	Service Servic	
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interva Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 4.5 MCMM _f : 2.0 Max. Observed MH:	al 3921 3187 M	aintainat	MTBCM 909 pility Indi Correcti MTTR CMCMM Ma	% Confi Uppe Lowe ices ive Main	dence I r Limit r Limit	12	139 123	8 3	ARTED	
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 4.5 MCMM _f : 2.0 Max. Observed MH: MCMM _f : 6.8 Variance: 236	al 3921 3187 M	laintainat	MTBCM 909 pility Indi Correcti MTTR _{CI} MCMM Ma MCMM Va	% Confi Uppe Lowe ices ive Main m:————————————————————————————————————	dence I r Limit r Limit atenance 9. 2. erved Mi 14.	12	139 123 1 Event	8 3	mal	
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 4.5 MCMM _f : 2.0 Max. Observed MH: MCMM _f : 6.8 Variance: 236 Indicated Distribution (s):	al 3921 3187 Morced Shutdown	aintainat	MTBCM 909 pility Indi Correcti MTTR _C MCMM Ma MCMM Va	% Confi Uppe Lowe ices ive Main m:————————————————————————————————————	dence I r Limit r Limit r Limit stenance 9. 2. erved Mi 14, 116	12	139 123 i Event	8 3 *)	actio	
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 4.5 MCMM _f : 2.0 Max. Observed MH: MCMM _f : 6.8 Variance: 236 Indicated Distribution(s): *REMARKS: (1) 723.	101 Exponential — 725, 730, 7	aintainah	MTBCM 909 pility Indi Correcti MTTR _C MCMM Ma MCMM Va	% Confi Uppe Lowe ices we Main m:————————————————————————————————————	dence I r Limit r Limi	12	139 123 1 Event	8 3 a)	mal	81
(Forced Shutdown Corn MTBCM _f : 3531 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 4.5 MCMM _f : 2.0 Max. Observed MH: MCMM _f : 6.8 Variance: 236 Indicated Distribution (s):	101 Exponential — 725, 730, 7	43. 74866,	MTBCM 909 pility Indi Correcti MTTR _{CI} MCMM Ma MCMM Va	% Confi Uppe Lowe ices ive Main m:————————————————————————————————————	13 idence I r Limit r Limit atenance 9. 2. erved Mi 14. 116	12 nterval	139 123 1 Event	8 3 3 60 Nor	mal	81

CONTINUATION SHEET

SHIPBOARD MACHINERY RELIABILITY AND MAINTAINABILITY DATA BANK

07(7(0000	
	Federal Stock Number:
Equipment Identification Code:	
Technical Manual:	
Manufacturer:	
Br	asic Data
	Equip. Population/Ship:
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:	
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
	Mean faire of Statement - Sensory Malatanings
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:	MTBCM: 90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 90% Confidence Interval Upper Limit: Lower Limit:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit: Lower Limit: Maintain	MTBCM: 90% Confidence Interval Upper Limit: Lower Limit:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 90% Confidence Interval Upper Limit: Lower Limit:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 90% Confidence Interval Upper Limit: Lower Limit: Inability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} : Max. Observed MH: MCMM _{cm} : Variance: Normal Log Normal

Equipment Identification

Noun Name: Pump, Main Condensate General Description: Pump CTFGL, 31	45 GPM 48 PSI 1170 RPM MD VI.T
CID/APL Number(s): 016160192	Federal Stock Number: None (G-14671)
Equipment Identification Code: ZG	Q01000/F309100
Technical Manual: 347-2401	Carried Mark States
Manufacturer: DeLaval Turbine, Inc	2. 16712
	Basic Data
DD 938 0113 0112 0115	* (1) Equip. Population/Ship: 4
Ship Population: DD 950, 941, 942, 945,	Equip. Population/Snip: 4
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/6 = 0.50; C = 0.0 / * (2)
	45,357
	Corrective Maintenance Events (CM): 226
Total CM _f Repair Man-Hours:803	Total CM Repair Man-Hours: 4575
Maintenance Factors:0	.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7189 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7189 90% Confidence Interval Upper Limit: 8972	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval Upper Limit: 2206
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7189 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7189 90% Confidence Interval Upper Limit: 8972 Lower Limit: 5814	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval Upper Limit: 2206
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7189 90% Confidence Interval Upper Limit: 8972 Lower Limit: 5814 Main	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval Upper Limit: 2206 Lower Limit: 1765 Intainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7189 90% Confidence Interval Upper Limit: 8972 Lower Limit: 5814 Main Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval Upper Limit: 2206 Lower Limit: 1765
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7189 90% Confidence Interval Upper Limit: 8972 Lower Limit: 5814 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7189 90% Confidence Interval Upper Limit: 8972 Lower Limit: 5814 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.9	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval Upper Limit: 2206 Lower Limit: 1765 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.5 MCMM _{cm} : 3.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 1966 90% Confidence Interval Upper Limit: 2206 Lower Limit: 1765 ntainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.5 MCMM _{cm} : 3.9 Max. Observed MH: 622 MCMM _{cm} : 20.2 Variance: 2669
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1966 90% Confidence Interval Upper Limit: 2206 Lower Limit: 1765 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.5 MCMM _{cm} : 3.9 Max. Observed MH: 622 MCMM _{cm} : 20.2 Variance: 2669

2-65

Noun Name:Pump, Main Feed					
General Description: Pump CTFGL, 31		S5 PST	5900 RPM	TCC VIT	И
CID/APL Number(s): 016160241				ne - (G-16836)
Equipment Identification Code: ZQ			unioci. Ho	there and 124 (1)	
Technical Manual: 347-1872	700071	7,100	Tebro aus	souther therapup	1
Manufacturer: DeLaval Turbines, Inc	(16712))		LioneM tisines	
manufacturer		220201	LES BY AND	Ave. Provide Clemat	4
	Basic Data	1			
Ship Population: <u>DE 1006, 1014, 103</u>	28, *(1)	Equip. Pop	ulation/Ship	: 2/DE; 4/LSD	
Equip. Population in Data Base: 26		Data Asses	sment Period	1:7/1/67 - 6/3	30/69
Utilization Factors: DE - S: A = 0.56	B = 0.5	51; C =	0.00:/ *	(2)	
Total Equip. Operating Time (hours):	8444			interdent nonenlist	
Total Number of: Failures (CM _f): 57	Corr	ective Main	tenance Ever	nts (CM): 106	
Total CM _f Repair Man-Hours: 2657	Tota	al CM Repai	r Man-Hours	3784	
Maintenance Factors: 0.6	67		313,131 70	A Should Mill intell	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	e)	n Time Bety	Sallings ero Correcti	tive Maintenance	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :2078 90% Confidence Interval Upper Limit:2621	Mean e)	n Time Bety BCM: 90% Confid	1113 dence Interve	al 1321	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2078 90% Confidence Interval	Mean e)	n Time Bety BCM: 90% Confid	1113 dence Interv	al 1321	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean e)	3CM:90% Confid Upper Lower	1113 dence Interve	al 1321	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :2078 90% Confidence Interval Upper Limit:2621 Lower Limit:1667 Ma Corrective Maintenance — (Forced Shutdown	Meane) MTE	3CM:90% Confid Upper Lower	1113 dence Interve	al 1321 951	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Meane) MTE intainability Corr	90% Confidence Lower Lower Main	1113 dence Interver Limit: r Limit:	al 1321 951	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Meane) MTE intainability Corr	90% Confidence Lower Lower Main	1113 dence Interver Limit: r Limit: tenance - (A	al 1321 951	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :2078 90% Confidence Interval Upper Limit:2621 Lower Limit:1667 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :31.1 MCMM _f :3.5	Meane) MTE intainability Corr	90% Confidence Indices rective Main TR _{cm} : MM _{cm} :	1113 dence Interver Limit: tenance - (A	al 1321 951 All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Meane) MTI intainability Corr MTI MCI	90% Conficulty Lower Lower Indices rective Main TR _{cm} : MM _{cm} : Max. Obser	1113 dence Interver Limit: tenance - (A	al 1321 951 All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Meane) MTI intainability Corr MTI MCI	90% Conficulty 1 Upper Lower Indices rective Main IR _{cm} : Max. Obser	1113 dence Interver Limit: tenance - (A 23.8 4.0 rved MH: 35.7	al 1321 951 All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Meane) MTE intainability Corr MTT MCN	90% Confidences Indices rective Main IR	1113 dence Interver Limit: tenance - (A 23.8 4.0 rved MH: 35.7 12697	al 1321 951 All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Meane) MTE intainability Corr MTT MCN	90% Conficulty 1 Upper Lower Indices rective Main IR _{cm} : Max. Obser	1113 dence Interver Limit: tenance - (A 23.8 4.0 rved MH: 35.7 12697	al 1321 951 All Events)	X

CID/APL Number(s): 016160241 Federal Stock Number: None *(1) Equipment Identification Code: ZQ03000 Technical Manual: 347-1872 Manufacturer: De Laval Turbine Inc. Basic Data Ship Population: DE 1025,1026,1027 *(2) Equip. Population/Ship: 2 ea/DE Equip. Population in Data Base: 12 Pumps Data Assessment Period: Jan 67-Jul Utilization Factors: 0.47 (1A Botler Hrs) 0.56 (1B Boiler Hrs) Total Equip. Operating Time (hours): 55839.4 Total Number of: Failures (CMf): 21 Corrective Maintenance Events (CM): 55 Total CMf Repair Man-Hours: 247.3 Total CM Repair Man-Hours: 1145.3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2659.0 90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Maintainability Indices Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR; 4.6 MCMMf: 4.9 Max. Observed MH: MCMMg: 20.8 Variance: 316.8 Variance: 4277.2	General Description: 315 GPM 785 PSI	Feed 5900 RPM Horizontal Mounting
Equipment Identification Code:		
Technical Manual: 347-1872 Manufacturer: De Laval Turbine Inc. Basic Data		
Basic Data		
Ship Population: DE 1025,1026,1027 *(2) Data Assessment Period: Jan 67-Jul Utilization Factors: 0.47 (1A Boiler Hrs) 0.56 (1B Boiler Hrs) Total Equip. Operating Time (hours): 55839.4 Total Number of: Failures (CMf): 21 Corrective Maintenance Events (CM): 55 Total CMf Repair Man-Hours: 247.3 Total CM Repair Man-Hours: 1145.3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2659.0 MTBCMf: 1015.3 90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Lower Limit: 1290.9 Lower Limit: 1290.9 Lower Limit: 4.6 MCMMf: 4.9 Max. Observed MH: MCMMcm: 6.3 Max. Observed MH: MCMMcm: 20.8 Variance: 4277.2		
Equip. Population in Data Base: 12 Pumps		Basic Data
Utilization Factors:	Ship Population: DE 1025,1026,1027 *	(2) Equip. Population/Ship: 2 ea/DE
Total Equip. Operating Time (hours):	Equip. Population in Data Base: 12 Pumps	Data Assessment Period: Jan 67-July 6
Total Number of: Failures (CM _f): 21 Corrective Maintenance Events (CM): 55 Total CM _f Repair Man-Hours: 247.3 Total CM Repair Man-Hours: 1145.3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2659.0 MTBCM: 1015.3 90% Confidence Interval Upper Limit: 3974.3 Upper Limit: 1290.9 Lower Limit: 1845.9 Lower Limit: 812.7 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.6 MCMM _f : 4.9 MCMM _{cm} : 6.3 Max. Observed MH: MCMM _f : 11.8 MCMM _{cm} : 20.8 Variance: 4277.2		
Total Number of: Failures (CM _f): 21 Corrective Maintenance Events (CM): 55 Total CM _f Repair Man-Hours: 247.3 Total CM Repair Man-Hours: 1145.3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2659.0 MTBCM: 1015.3 90% Confidence Interval Upper Limit: 3974.3 Upper Limit: 1290.9 Lower Limit: 1845.9 Lower Limit: 812.7 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.6 MCMM _f : 4.9 MCMM _{cm} : 6.3 Max. Observed MH: MCMM _{cm} : 20.8 Variance: 4277.2	Total Equip. Operating Time (hours):5583	39.4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2659.0 90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Maintainability Indices MTBCM: 1015.3 90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 4.6 MCMMf: 4.9 Max. Observed MH: MCMMcm: 6.3 Max. Observed MH: MCMMcm: 20.8 Variance: 4277.2	Total Number of: Failures (CM _f): 21	Corrective Maintenance Events (CM):55
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2659.0 90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Maintainability Indices MTBCM: 1015.3 90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 4.6 MCMMf: 4.9 Max. Observed MH: MCMMcm: 6.3 Max. Observed MH: MCMMcm: 20.8 Variance: 4277.2	Total CMe Repair Man-Hours: 247.3	Total CM Repair Man-Hours: 1145.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2659.0 MTBCM: 1015.3 90% Confidence Interval Upper Limit: 3974.3 Upper Limit: 1290.9 Lower Limit: 1845.9 Lower Limit: 812.7 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 4.6 MCMMf: 4.9 MCMMcm: 6.3 Max. Observed MH: MCMMcm: 20.8 Variance: 316.8 Variance: 4277.2		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2659.0 90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 MTBCM: 1015.3 90% Confidence Interval Upper Limit: 1290.9 Lower Limit: 812.7 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.6 MCMM _f : 4.9 Max. Observed MH: MCMM _f : 11.8 Variance: 316.8 Mean Time Between Corrective Maintenance MTBCM: 1015.3 90% Confidence Interval Upper Limit: 1290.9 Lower Limit: 812.7 MTTR _{cm} : 7.1 MCMM _{cm} : 6.3 Max. Observed MH: MCMM _{cm} : 20.8 Variance: 4277.2		
(Forced Shutdown Corrective Maintenance) MTBCMf: 2659.0 90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 4.6 MCMMf: 4.9 Max. Observed MH: MCMMf: 11.8 Variance: 316.8 MTBCM: 1015.3 90% Confidence Interval Upper Limit: 1290.9 Lower Limit: 812.7 Corrective Maintenance — (All Events) MTTR _{cm} : 7.1 MCMM _{cm} : 6.3 MCMM _{cm} : 20.8 Variance: 4277.2	Reli	iability Indices
90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Maintainability Indices		Mean Time Between Corrective Maintenance
90% Confidence Interval Upper Limit: 3974.3 Lower Limit: 1845.9 Maintainability Indices	MTBCMe: 2659.0	MTBCM: 1015.3
Lower Limit: 1845.9 Lower Limit: 812.7 Maintainability Indices		90% Confidence Interval
Lower Limit:	Upper Limit: 3974.3	Upper Limit:1290.9
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.6 MCMM _f : 4.9 Max. Observed MH: MCMM _f : 11.8 Variance: 316.8 Corrective Maintenance — (All Events) MTTR _{cm} : 7.1 MCMM _{cm} : 6.3 Max. Observed MH: MCMM _{cm} : 20.8 Variance: 4277.2	Lower Limit: 1845.9	Lower Limit: 812.7
Failure Events Only) MTTR _f : 4.6 MCMM _f : 4.9 Max. Observed MH: 6.3 MCMM _f : 11.8 Variance: 316.8 Wariance: 4277.2	Maint	ainability Indices
MTTR _f : 4.6 MCMM _f : 4.9 Max. Observed MH: 6.3 Max. Observed MH: Max. Observed MH: MCMM _{cm} : 20.8 Variance: 316.8 Variance: 4277.2		Corrective Maintenance — (All Events)
MCMM _f : 4.9 Max. Observed MH:		MTTR _{cm} : 7.1
Max. Observed MH:		MCMM _{cm} : 6.3
Variance: 4277.2		Max. Observed MH:
Variance: 4277.2	MCMM ₆ :	MCMM _{cm} : 20.8
Indicated Distribution (s): Exponential Normal Log Normal	Variance: 316.8	Variance: 4277.2
	Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) G-16836 DN 2P9-4 ID#; *(2) 1028,1029,1030 **Indices previously developed for ARINC Research Publicati	*REMARKS: *(1) G-16836 DN 2P9	-4 ID#; *(2) 1028,1029,1030

Noun Name: Pump, Main Fuel Oil Servi	.ce
General Description: 35 GPM 350 PSI 182	20 RPM Vertical Mounting
CID/APL Number(s): 016160243	Federal Stock Number: None *(2)
Equipment Identification Code: ZTO3000	AND THE PROPERTY OF THE PROPER
Technical Manual: 347-1873	- The second was a second seco
Manufacturer: De Laval Turbine Clnc.	190000 HS0005
Basi	c Data
Ship Population: DE 1025,1026,1027,1028	*(1) Equip. Population/Ship: 2 ea/DE
Fauin Population in Data Rese: 12 Pumps	Data Assessment Period: Jan 67-July 69
Utilization Factors: 0.43 (1A Boiler Hrs)	0.54 (1B Boiler Hrs)
Total Equip. Operating Time (hours): 52586.	.6
Total Number of: Failures (CMs):	Corrective Maintenance Events (CM): 21
20.7	Total CM Repair Man-Hours: 323.4
Maintenance Factors:	New York and the second of the
Reliabil	ity Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	with the second was a second with a second
	MTBCM: 2504.1
MTBCM _f : 5843.0	
90% Confidence Interval	90% Confidence Interval Upper Limit: 3742.8
Upper Limit: 11200.6 3349.5	Lower Limit: 1738.4
Lower Limit: 3349.5	Lower Limit
Maintains	ability Indices
***************************************	55 100 - 1
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Aufort Armon and Autom
$ \begin{array}{ll} \text{MTTR}_{\mathbf{f}}: & \underline{1.2} \\ \text{MCMM}_{\mathbf{f}}: & \underline{1.6} \end{array} $	MTTR _{cm} : 5.7
MCMM _f :	MCMM _{cm} : 4.9
Max. Observed MH:	Max. Observed MH:
MCMM _f : 2.3	MCMM _{cm} : 15.4
Variance: 3.6	Variance: 686.4
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 1029,1030; *(2)	Dwg-SG-2765 ID-31HX87
**Indices previously devel	oped for ARINC Research Publication
588-02-3-1058, dated May	1970.

General Description: Pump, CTFGL, 300	CDM 176 DST 2550 DDM MD VITT
	Federal Stock Number: None - (W-244996)
	00/F303100
Equipment Identification Code: ZQ0300 Technical Manual: 347-2953	
Manufacturer: 30760 Ingersoll-Rand Co	2
Manufacturer:	<u>. </u>
Bar	sic Data
Ship Population: SSBN 598,599,601, *(1	Equip. Population/Ship: 4
Equip. Population in Data Base:28	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S A = 0.40; B = 0.25	; C = 0.00;
Total Equip. Operating Time (hours): 116909	9
Total Number of: Failures (CM _f): 15	Corrective Maintenance Events (CM): 29
	Total CM Repair Man-Hours: 252
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 7794 90% Confidence Interval Upper Limit: 12639 Lower Limit: 5061	MTBCM: 4031 90% Confidence Interval Upper Limit: 5634 Lower Limit: 2956
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
MTTR _f : 6.2	MTTR _{cm} : 5.8
MCMM _f : 2.0	MCMM _{cm} :3.8
Max. Observed MH: 72	Max. Observed MH: 72
MCMM _f : 9.3	MCMM _{cm} : 8.7
Variance:356	Variance: 252
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) 602, 608/SSN 585, 5	588 **Reliability indices developed

Equipment Identification

Noun Name: Pump CTFGL, Aircraft Fueling/Defueling, JP-5/Aviation Gas

General Description: Pump RTY PWR 50.00 GPM 75 PSI 520 RPM Md.

CID/APL Number(s): 016200106	
	5/AJ35
Technical Manual: 347-3246	5 8 2 C 2 D 2 C 2 D 2 C 2 D 2 D 2 D 2 D 2 D
Manufacturer: 07524 Blackmer Pump Co	Div. of Dover Corp.
6.81	Basic Data
Shin Bonulation CVA 63 6H DEC 11 5 I DD	8 ea/CVA; 2 ea/DEG 1,2; Equip. Population/Ship: 6 ea/LPD;
	Data Assessment Period: 7/1/67 - 6/30/69
	Data Assessment Period: 7/1/07 - 0/30/09 029.C=0.005; DEG/S: A=0.01,B=0.0,C=001
	33513
	Corrective Maintenance Events (CM):23
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors:	7.01
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	Market make magneral gardenide project
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2792	MTBCM:1457
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2792 90% Confidence Interval	MTBCM: 1457 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2792 90% Confidence Interval Upper Limit: 4840	MTBCM: 1457 90% Confidence Interval Upper Limit: 2132
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2792 90% Confidence Interval	MTBCM: 1457 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :2792 90% Confidence Interval Upper Limit:4840 Lower Limit:1724	MTBCM: 1457 90% Confidence Interval Upper Limit: 2132
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2792 90% Confidence Interval Upper Limit: 4840 Lower Limit: 1724 Mainta	MTBCM: 1457 90% Confidence Interval Upper Limit: 2132 Lower Limit: 1028
(Forced Shutdown Corrective Maintenance) MTBCM _f :2792 90% Confidence Interval	MTBCM: 1457 90% Confidence Interval Upper Limit: 2132 Lower Limit: 1028 Ainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :2792 90% Confidence Interval	MTBCM: 1457 90% Confidence Interval Upper Limit: 2132 Lower Limit: 1028 Ainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :2792 90% Confidence Interval	MTBCM: 1457 90% Confidence Interval Upper Limit: 2132 Lower Limit: 1028 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.0 MCMM _{cm} : 3.3
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 1457 90% Confidence Interval Upper Limit: 2132 Lower Limit: 1028 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.0 MCMM _{cm} : 3.3 Max. Observed MH: 6
(Forced Shutdown Corrective Maintenance) MTBCM _f :2792	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :2792	MTBCM: 1457 90% Confidence Interval Upper Limit: 2132 Lower Limit: 1028 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.0 MCMM _{cm} : 3.3 Max. Observed MH: 6
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

General Description: Pump RTY PWR 50.000	GPM 75 PSI 520 RPM MR
	Federal Stock Number: <u>E3162</u>
Equipment Identification Code: AJF3/AXC	
Technical Manual: 0947-060-5010	Stall dispert from
Manufacturer: 07524 Blackmer Pump Co.	. Div. of Dover Corp.
	Basic Data
DD 875,877,882,884,885,88	86,888,889; 1 ea/DD,DE; 3 ea/ D 1,*(1) Equip. Population/Ship: 8 ea/LPH;
Ship Population: DE 1022, 1028, 1029; LPI	D 1,*(1) Equip. Population/Ship: 8 ea/LPH;
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
	0.0,C=0.001;LPD/LPH-S: A=0.01,B=0.01,C=0
Total Equip. Operating Time (hours):	(11)
10 M C C C C C C C C C C C C C C C C C C	Corrective Maintenance Events (CM):28
Total CM _f Repair Man-Hours: 26	Total CM Repair Man-Hours:364
Maintenance Factors:	.67
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Farrow Statemen Larrechie Materialism
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1185 90% Confidence Interval	MTBCM: 254 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1185 90% Confidence Interval Upper Limit: 2723	MTBCM: 254 90% Confidence Interval Upper Limit: 358
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1185 90% Confidence Interval	MTBCM: 254 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :185 90% Confidence Interval Upper Limit:2723 Lower Limit:601	MTBCM: 254 90% Confidence Interval Upper Limit: 358
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 254 90% Confidence Interval Upper Limit: 358 Lower Limit: 185 tainability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 254 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 254 90% Confidence Interval Upper Limit: 358 Lower Limit: 185 tainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 254 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 254 90% Confidence Interval Upper Limit: 358 Lower Limit: 185 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.7 MCMM _{cm} : 5.8 Max. Observed MH: 91 MCMM _{cm} : 13.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 254 90% Confidence Interval Upper Limit: 358 Lower Limit: 185 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.7 MCMM _{cm} : 5.8 Max. Observed MH: 91
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 254 90% Confidence Interval Upper Limit: 358 Lower Limit: 185 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.7 MCMM _{cm} : 5.8 Max. Observed MH: 91 MCMM _{cm} : 13.0

Noun Name: Pump, HEAF	TV PWP 200 00	CPM 100 PCT 640 P	DM MD
General Description: Pump R			
ID/APL Number(s):0162	00157	Federal Stock Number: _E	3427
	:AJE6		
echnical Manual: None			
Manufacturer: 07524 Blac	kmer Pump Co.	Div. of Dover Corp.	
	Ba	sic Data	
Ship Population: LPD 4. 5	. 6:	Fauin Population/Ship	2 ea/LPD
Rouin Population in Data Rass	. 6	Equip. Population/Ship Data Assessment Period	1: 7/1/67 - 6/30/6
Utilization Factors: S: A	= 0.04, B = 0	0.04, C = 0.04	/ 1/0 - 0/50/0
		211	
		_ Corrective Maintenance Ever	
		_ Total CM Repair Man-Hours	
Total Cing Repair Mail-Hours:		0.67	1
MTBCM _f : 4211	R	MTBCM:1052	
90% Confidence Interval			
Upper Limit: 820	086	Upper Limit:	3082
Lower Limit:	388	Lower Limit:	460
	Maintain	ability Indices	
Corrective Maintenance — (For	ced Shutdown	Corrective Maintenance — (A	All Events)
Failure Events Only)			Date Deposit Chart
MTTR _f : 2.0		MTTR _{cm} :5.8	
MCMM _f :O		MCMM _{cm} : 9.5	- L
Max. Observed MH:	0	Max. Observed MH:	16
исмм _f :3.0		MCMM _{cm} : 8.7	
Variance:		Variance: 70	- Comment of Market V
Indicated Distribution (s): Ex	kponential	Normal	Log Normal
*REMARKS:			
REMARKS.			

Company Description Pump, CTEGI,	25 GPM 70 PSI 3500 RPM MD VLT
CID/APL Number(s): 016230145	Federal Stock Number: 4320-727-2577
	AP28000/310E700
Equipment racintification code:	120000, 9202700
Technical Manual: 347-2913	Aldrich Pump Div. 01026
Manufacturer: Ingersoll-Rand Co.,	Aldrich rump Div. 01020
	Basic Data
Ship Population: DLG 9, 10, 11, 14	Equip. Population/Ship: 4
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00; B = (0.70; C = 0.0
	58337
	Corrective Maintenance Events (CM): 47
	Total CM Repair Man-Hours: 719
Maintenance Factors:	0.67
Mean Time Between Failure	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 5695	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 5695 90% Confidence Interval Upper Limit: 9860	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 5695	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 5695 90% Confidence Interval Upper Limit: 9860 Lower Limit: 3515	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 5695 90% Confidence Interval Upper Limit: 9860 Lower Limit: 3515 Main Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882 Lower Limit: 1140 Intainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882 Lower Limit: 1140 Intainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882 Lower Limit: 1140 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882 Lower Limit: 1140 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.1
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882 Lower Limit: 1140 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.1 Max. Observed MH: 97
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882 Lower Limit: 1140 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.1 Max. Observed MH: 97
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1454 90% Confidence Interval Upper Limit: 1882 Lower Limit: 1140 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.2 MCMM _{cm} : 4.1 Max. Observed MH: 97 MCMM _{cm} : 15.3 Variance: 475

General Description:	AC, SSTG Set Generator AC	450V 2000 KW 3600 RPM
ID/API. Number(s):	162500243	Federal Stock Number: None Dwg No. 7358E50
Equipment Identification Code	PA0	1000/310C100
Technical Manual:	361-1666	
Manufacturer: 03497 Gen	eral Electric	Co. Low Voltage Switchgear Dept.
	Ba	sic Data
ggpyco0 co	00 601 600 000	000 J 00 (00D CON
Ship Population SBN 590, 59	79,001,002,85N5	Equip. Population/Ship: 1 ea/SSB, SSN
Equip. Population in Data Bas	e:	Data Assessment Period: 7/1/67 - 6/30/69 1.0; C = 0.0/SSN-S: A = 0.98, B=0.98; C=
	F00	1.0; C = 0.0/SSN-S: A = 0.90, B-0.90; C-0.90; C-0.90
Total Equip. Operating Time	(110ms).	
Total Number of: Failures	•	_ Corrective Maintenance Events (CM): 13
Total CM _f Repair Man-Hours:	3.0	
Maintenance Factors:	0 (57
(Forced Shutdown Correct	ctive Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 59865 90% Confidence Interval	Manager Continues	MTBCM: 4536 90% Confidence Interval
(Forced Shutdown Correct MTBCM _f : 59865 90% Confidence Interval Upper Limit: 1	Manager Continues	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666
(Forced Shutdown Correct MTBCM _f : 59865 90% Confidence Interval	Manager Continues	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666
(Forced Shutdown Correct MTBCM _f : 59865 90% Confidence Interval Upper Limit: 1	L091944 L2429	MTBCM: 4536 90% Confidence Interval
(Forced Shutdown Correct MTBCM _f : 59865 90% Confidence Interval Upper Limit: 1	L091944 L2429	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666
(Forced Shutdown Corrective Maintenance — (Forced Shutdown Corrective Shutdown Correct	L091944 L2429 Maintain	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666 Lower Limit: 2852 hability Indices
(Forced Shutdown Corrective Maintenance — (For Failure Events Only)	L091944 L2429 Maintain	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666 Lower Limit: 2852 mability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance — (For Failure Events Only) (Forced Shutdown Corrective Maintenance — (For Failure Events Only)	L091944 L2429 Maintain	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666 Lower Limit: 2852 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.8
(Forced Shutdown Correct MTBCM _f : 59865 90% Confidence Interval Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (For Failure Events Only) MTTR _f : 0.8 MCMM _f : 1.3	Maintain	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666 Lower Limit: 2852 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.8 MCMM _{cm} : 2.8
(Forced Shutdown Corrective Maintenance — (For Failure Events Only) MTR _f :	L091944 L2429 Maintain	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666 Lower Limit: 2852 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.8 MCMM _{cm} : 2.8 Max. Observed MH: 12
(Forced Shutdown Correct MTBCM _f : 59865 90% Confidence Interval Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (For Failure Events Only) MTTR _f : 0.8 MCMM _f : 1.3 Max. Observed MH: 1.3 MCMM _f : 1.3	Maintain	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666 Lower Limit: 2852 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.8 MCMM _{cm} : 2.8 Max. Observed MH: 12 MCMM _{cm} : 4.1
(Forced Shutdown Corrective Maintenance — (For Failure Events Only) MTR _f :	Maintain	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666 Lower Limit: 2852 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.8 MCMM _{cm} : 2.8 Max. Observed MH: 12
(Forced Shutdown Correct MTBCM _f : 59865 90% Confidence Interval Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (For Failure Events Only) MTTR _f : 0.8 MCMM _f : 1.3 Max. Observed MH: 1.3 Wariance: 0	Maintain	MTBCM: 4536 90% Confidence Interval Upper Limit: 7666 Lower Limit: 2852 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.8 MCMM _{cm} : 2.8 Max. Observed MH: 12 MCMM _{cm} : 4.1

Noun Name: Pump, Main Feed	TO THE CANCE WE DIRECT PROJECT
General Description: Pump CTFGL, 3	325 GPM 57 PSI 1145 RPM TRD VLT
CID/APL Number(s): 017020014	Federal Stock Number: None - (2F-756)
Equipment Identification Code: 2 Technical Manual: 347-3059	Q03000/F303100
recinical Manual.	
Manufacturer: 10171 Byron Jackson	i, Inc.
	Basic Data
Ship Population: DDG 18, 19/DLG 9, *	(1) Equip Population/Ship: 6
	26 Data Assessment Period: 7/1/67 - 6/30/69
	= 0.32; C = 0.00; / DLG *(2)
Total Equip. Operating Time (hours):	
Total Number of: Failures (CMs): 7	CO_ Corrective Maintenance Events (CM): 138
-	Total CM Repair Man-Hours: 2074
Maintenance Factors:	91
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3291	MTBCM: 1669
90% Confidence Interval	90% Confidence Interval
Upper Limit: 4054	Upper Limit: 1932
Lower Limit:2697	Lower Limit: 1449
Mainta	ainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Hilliam Roman Deliv)
MTTR _f : 6.3	MTTR _{cm} :10.0
MCMM _f : 2.0	MCMM _{cm} : 3.2
Max. Observed MH: 146	Max. Observed MH: 466
MCMM _f : 9.5	MCMM _{cm} : 15.0
Variance: 386	Variance: 2157
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) 10, 11, 14; (2) DI	LG-S: A = 0.67; B = 0.56; C = 0.0
**Reliability indices developed i	for ARINC Research Publication

Equipment Identification

Noun Name: Pump, Priming Fresh Wate	er thank state make
General Description: Vacuum Pump RTY Po	ower 10.0 CFM 1750 RPM
CID/APL Number(s): 017070056	Federal Stock Number: AA-687 Dwg.
Equipment Identification Code: AH22	
Technical Manual: 347-1992	
Manufacturer: 42280 Nash Engr. Co.	2.3000
CVA 61,62,63,64; DD937, Basic 940,941,942,946,948,950,951; Ship Population: 28,29,30,31,32; DDG31; LPH 2, Equip. Population in Data Base: 50	Data Data Assessment Period: 7/1/67 - 6/30/69 C = 0.50; DD/DDG/DLG/LPH-S: A=0.50; B=0.30;
Total Equip. Operating Time (hours): 35731	C=0.10
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM): 22
Total CM _f Repair Man-Hours: 21 Maintenance Factors: 0.67	Total CM Repair Man-Hours: 120
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTPCM: 16241
MTBCM _f : 357312	90% Confidence Interval
90% Confidence Interval	Upper Limit: 23992
Upper Limit: 6965147 Lower Limit: 75321	Lower Limit: 11374
Maintaina	bility Indices
Corrective Maintenance - (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR, 7.0	MTTR _{cm} : 3.6
MCMM, 10.5	MCMM _{cm} : 2.8
Max Observed MH:22	Max. Observed MH: 21
w ww. 10.5	MCMM _{em} :
Variance 221	Variance: 35
Taracr	Variance:
coloused (federilation (s) Exponential	Normal Log Normal

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	iter was a second secon
General Description: Vacuum Pump, RTY	Pwr 12.0 CFM 1750 RPM
CID/APL Number(s): 017070080	Federal Stock Number: AA-581 Dwg.
Equipment Identification Code: AH22	33W
Technical Manual: 347-3334	
Manufacturer: 42280 Nash Engr. Co.	
Utilization Factors: CVA-S: A=0.50; B=0.50 Total Equip. Operating Time (hours):	Equip. Population/Ship: 4 ea/CVA; 2 ea/DDG/DLG Data Assessment Period: 7/1/67 - 6/30/69 ; C=0.50; DDG/DLG-S: A=0.50; B=0.30; C=0.10
Total CM _f Repair Man-Hours: 29 Maintenance Factors: 0.67	Total CM Repair Man-Hours:61
(Forced Shutdown Corrective Maintenance) MTBCM _f : 49923	MTBCM: 29121 90% Confidence Interval
90% Confidence Interval Upper Limit: 106372	Upper Limit: 50471
Lower Limit:	Lower Limit: 17973
Lower Limit:	Dower Linux.
Mainta	inability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :	MTTR _{cm} :3_4
MCMM _f :3.0	MCMM _{cm} :3.0
Max. Observed MH:	Max. Observed MH: 20
MCMM ₆ :4.2	MCMM _{cm} :5.1
	WCMM _{cm} : 5.1 Variance: 28
MCMM ₆ :4.2	Normal Log Normal

Noun Name: Pump, Priming Fresh W	ater
General Description: Vacuum Pump, RT	Y Pwr 15.0 CFM 1750 RPM
CID/API, Number(s): 017070086	Federal Stock Number: AA-575 Dwg.
CID/APL Number(s): 017070086 Equipment Identification Code: AH22	
Technical Manual: 347-3313	29 5 P. 17 P
Manufacturer: 44280 Nash Engr. Co.	
Manutacouter.	
В	asic Data
C. D I.PD 1 2 3 4 5 6	7 2 ea/I.PD
Ship Population: LLD 1, 2, 3, 4, 5, 0,	7 Equip. Population/Ship: 2 ea/LPD
Equip. Population in Data Base: $\frac{14}{S}$. S: A = 0.50: B = 0.	Data Assessment Period: 7/1/67 - 6/30/69 = 0.50
Total Equip. Operating Time (hours): 135	Corrective Maintenance Events (CM): 3
	Total CM Repair Man-Hours:14
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 135291 90% Confidence Interval Upper Limit: 2637252 Lower Limit: 28519	MTBCM: 45097 90% Confidence Interval Upper Limit: 165453 Lower Limit: 17449
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :3.3	MTTR _{cm} : 3.1
MCMM _f : 0.0	MCMM _{cm} :
Max. Observed MH:O	Max. Observed MH: 8
Variance:O	Wariance: 12.3
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	3.962.9504

Noun Name: Pump, Hot Fresh Water	r Circ.
General Description: Pump CTFGL 5 G	PM 2 PSI 1725 RPM MD VLT
CID/APL Number(s): 017140002	Federal Stock Number: BA138 Dwg.
Equipment Identification Code: AH3	
Technical Manual: 338-0228	30000989
	s, Inc.
	i dipposition
	Basic Data
Ship Population: * (1)	Equip. Population/Ship: (1)
Equip. Population in Data Base: 164	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors DD/DDG/DE/DEG/DLG-S:	A = 1.00; B = 1.00; C = 1.00* (2) see nex
	2745754 page
	Corrective Maintenance Events (CM): 82
10tal CM _f Repair Man-Hours: 430	Total CM Repair Man-Hours:636
Maintenance Factors: 0.67	
MTBCM _f : 66969	MTBCM: 33484
90% Confidence Interval	90% Confidence Interval
Upper Limit: 88386 Lower Limit: 51613	Upper Limit: 40561
Lower Limit: 51613	Lower Limit: 27866
Maint	ainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
$MTTR_f$: 7.4	MTTR _{cm} : 5.2
MCMM _f : 5.0	MCMM _{cm} :
Max. Observed MH:71	Max. Observed MH:71
MCMM _f : 11.1	MCMM _{cm} : 7.8
Variance:242	Variance: 169
	Normal Log Normal _X
Indicated Distribution(s): Exponential *REMARKS: (1) 1 ea/DD 875, 876, 883,	Normal Log Normal _X
*REMARKS: (1) 1 ea/DD 875, 876, 883, DDG 2, 5, 6, 7, 8, 9, 11, 12, 13, 14,	Normal Log Normal _X

(CONTINUED)

SHIPBOARD MACHINERY RELIABILITY AND MAINTAINABILITY DATA BANK

Noun Name: Pump, Hot Fresh Wa	ater Ci	rc.	
General Description: Pump CTFGL	5 GPM	2 PSI 1725 RPM	MD VLT
CID/APL Number(s): 017140002	aces lamba		BA138 Dwg.
Equipment Identification Code:	AH31	Touchar Dioca Mamber.	obed national esta kienera
Technical Manual: 338-0228			North State of the
Manufacturer: 59975 Thrush Produ	icts, Ir	nc.	
λ			
	Basic	Data	
Ship Population: * (1)	Start	Equip. Population/S	Ship:
Equip. Population in Data Base:			
Utilization Factors: *(2)			EN COMPANIE DE LA COM
Total Equip. Operating Time (hours):			
Total Number of: Failures (CM _f):	A rollinger	Corrective Maintenance E	Events (CM):
Total CM _f Repair Man-Hours:	di 140 lulia	Total CM Repair Man-Ho	ours:
Maintenance Factors:			
	Reliabilit	y indices	
Mean Time Between Failure (Forced Shutdown Corrective Maintena	nce)	Mean Time Between Corr	rective Maintenance
MTBCM _f :		MTBCM:	MOTO
90% Confidence Interval		90% Confidence Inte	erval
Upper Limit:		Upper Limit: _	
Lower Limit:		Lower Limit: _	30000
1	Maintainabi	lity Indices	
Corrective Maintenance — (Forced Shutdown	and the second	Corrective Maintenance —	(All Promiss)
Failure Events Only)		Corrective Matricellarice —	(All Events)
MTTR _f :		MTTR _{cm} :	and the same of th
MCMM _f :		MCMM _{cm} :	
Max. Observed MH:		Max. Observed MH:	
MCMM _f :		MCMM _{cm} :	THE PARTY
Variance:		Variance:	Variance: LESE
Indicated Distribution(s): Exponential		Normal	Log Normal
*REMARKS *(1)1169,1170; 4 EA/L	ST 1173	. 1174. 1176. *(2) LSD-S: A= 0.65.
B = 0.65; $C = 0.65/LST-S$: A			

Noun Name: Pump, Hot Fresh Water Ci General Description: Pump, CTFGL 35 GH	PM 3 PSI 1725 RPM MD VLT
CID/API Number(s): 017140005	Federal Stock Number: 9C4320-376-8719
	Pederal Stock Mander.
Technical Manual: None	
Manufacturer: 59975 Thrush Products,	Inc.
	Basic Data
Ship Population: CVA 63, DLG 30 and 31	Equip. Population/Ship: 1 ea/CVA; 6 ea/I Data Assessment Period: 7/1/67 - 6/30/6 B = 1.00; C = 1.00
Equip. Population in Data Base: 13	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: $VA/DLG - S: A = 1.00$	0; B = 1.00; C = 1.00
Total Equip. Operating Time (hours):	220072
	Corrective Maintenance Events (CM):7
	Total CM Repair Man-Hours:
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614	Mean Time Between Corrective Maintenance MTBCM: 32581
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614	Mean Time Between Corrective Maintenance MTBCM: 32581
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval Upper Limit: 115764 Lower Limit: 21694	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422 Lower Limit: 17346
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval Upper Limit: 115764 Lower Limit: 21694	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval Upper Limit: 115764 Lower Limit: 21694 Mainta Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422 Lower Limit: 17346 inability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval Upper Limit: 115764 Lower Limit: 21694 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422 Lower Limit: 17346 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval Upper Limit: 115764 Lower Limit: 21694 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _e : 2.2	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422 Lower Limit: 17346 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval Upper Limit: 115764 Lower Limit: 21694 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.2 MCMM _f : 2.0	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422 Lower Limit: 17346 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.9 MCMM _{cm} : 2.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval Upper Limit: 115764 Lower Limit: 21694 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.2 MCMM _f : 2.0 Max. Observed MH: 6	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422 Lower Limit: 17346 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.9 MCMM _{cm} : 2.0 Max. Observed MH: 6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 45614 90% Confidence Interval Upper Limit: 115764 Lower Limit: 21694 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.2 MCMM _f : 2.0 Max. Observed MH: 6	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422 Lower Limit: 17346 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.9 MCMM _{cm} : 2.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 32581 90% Confidence Interval Upper Limit: 69422 Lower Limit: 17346 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.9 MCMM _{cm} : 2.0 Max. Observed MH: 6

Noun Name: Pump, Hot Fresh Water Cir	c.
General Description: Pump, CTFGL '5	GPM 5 PSI 1725 RPM MD VLT
CID/APL Number(s): 017840001	Federal Stock Number: NY032743 Dwg.
Equipment Identification Code:AI	H31
Technical Manual: 347-1709	Apple Server V. Control of Contro
Manufacturer: 03950 Various	Sal sachinosa despeta e tele . Applicació
Be	asic Data
No. of Cartestan Commencer of Cartestan Commencer	4 EA/AFS; 2 EA/AO; - 1 EA/MSC: 1 EA/MSC
Ship Population: (1)	Equip. Population/Ship: 1 EA/MSO; 1 EA/MSC
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
	A = 1.00; B = 1.00; C = 1.00
Total Equip. Operating Time (hours): 47	3000
	Corrective Maintenance Events (CM):19
Total CM, Repair Man-Hours: 121	Total CM Repair Man-Hours:190
Maintenance Factors:0	.67
(Forced Shutdown Corrective Maintenance) MTBCM _f : 47368	MTBCM: 24930
90% Confidence Interval	90% Confidence Interval
Upper Limit: 87309	Upper Limit: 38073
Lower Limit: _27925	Lower Limit: 16990
Maintai	nability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 8.0	MTTR _{cm} : _6.7
MCMM _f : 2.2	MCMM _{cm} :
Max. Observed MH:99	Max. Observed MH:99
MCMM _f : 12.1	MCMM _{cm} : 10.0
Variance: 936	Variance: 520
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: AFS 1, 2, 3; AO 97, 100	MSO 426, 432, 435, 437, 438, 462, 466,
508; MSC 198, 199, 205, 206, 207	. 209

Noun Name: Pump, Hot Fresh Water	· Circ.
General Description: Pump, CTFGL 5	GPM 22 PSI 1725 RPM MD VLT
CID/APL Number(s): 017840006	Federal Stock Number: B115-030 Dwg.
	i31
Technical Manual: None	
Manufacturer: 59015 Taco, Inc.	A STATE OF THE PROPERTY OF A SPECIAL PROPERTY OF THE PROPERTY
	1/CVA 61, 20/CVA 62 1/LPH 20/CVA 63 20/CVA 64 20/CVA 65 20/CVA 65 20/CVA 65 20/CVA 66
Utilization Factors: CVA/LPH-S: A = 1.00); $B = 1.00$; $C = 1.00$
Total Equip. Operating Time (hours):	524122
Total Number of: Failures (CM _f): 8	Corrective Maintenance Events (CM):
Maintenance Factors: 0.	Total CM Repair Man-Hours:58
(Forced Shutdown Corrective Maintenance) MTBCM _f : 65515 90% Confidence Interval Upper Limit: 131662	MTBCM: 52412 90% Confidence Interval Upper Limit: 96605
Lower Limit: 36310	Lower Limit: 30898
Maint	ainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : _3.8	MTTR _{cm} :
	MCMM _{cm} :6.3
MCMM _f : _6.3	
MCMM _f : Max. Observed MH: 9	Max. Observed MH: 12.0
Max. Observed MH: 9	Max. Observed MH: 12.0
Max. Observed MH:9	Max. Observed MH: 12.0
Max. Observed MH: 9	Max. Observed MH: 12.0

Noun Name: Pump,	D	ampar		2534							
General Description:		CTFGL	30	GPM		PSI	3450			VLT	IN C
CID/APL Number(s):				_ Fe	deral	Stock	Number	:D-	-2284	Dwg.	A SUITE
Equipment Identification	Code:	-60	AH:	17				340 A			
Technical Manual:	347-1	768								Lightle	E 316.16
Manufacturer: 95539	Economy	Pumps	Div	v. C.	н.	Whee	eler M	fg.	0.		
			В	asic De	ta						
LST 1150	6,1157,1	159,1161	1,116	52,116	3,						
Ship Population: 1166,110	67,1168,	1169,117	70		_ Eq	uip. Po	pulation	/Ship:	3 ea	LST	
Equip. Population in Data Utilization Factors: S:	Base:		33		_ Da	ta Ass	essment I	Period:	7/1/	57 - 1	6/30/69
Utilization Factors: S:	A = 0.6	67; B =	0.1	45; C	= (0.10				Total Section	
Total Equip. Operating Time	me (hour	s):	20	5513			<u> Leisel</u>				
Total Number of: Failu	res (CMf	:11		Co	rrecti	ive Mai	ntenance	Event	s (CM):	_ 2	7
Total CM _f Repair Man-Ho	urs:	43		To	tal C	M Ren	air Man-F	lours.	477		
Maintenance Factors:			0.6	57							Name of the last
			Relia	bility I	ndice	8					
Mean Time Between Failu (Forced Shutdown C							tween Co	orrectiv	re Main	tenance	
(Forced Shutdown C	orrective			Me		ime Be	tween Co	orrectiv	re Main	tenance	
	orrective			Me	ean T	ime Be		ens."	re Main	tenance	
(Forced Shutdown Communication of Shutdown C	orrective	Maintenan		Me	ean T	ime Be	511 fidence I	nterval	i despes	tenance	
(Forced Shutdown Communication of the MTBCM _f : 18683	rval 33315	Maintenan		Me	ean T	ime Be	611	nterval	— 0784	tenance	
(Forced Shutdown Communication of the MTBCM _f : 18683 90% Confidence Intervented Upper Limit:	rval 33315	Maintenan	œ)	M	PBCM	f:	611 fidence Iner Limit:	nterval	— 0784	tenance	
(Forced Shutdown Communication of the MTBCM _f : 18683 90% Confidence Intervented Upper Limit:	rval 33315	Maintenan	œ)	Me	PBCM	f:	611 fidence Iner Limit:	nterval	— 0784	tenance	
(Forced Shutdown Community of the Commun	rval 33315 11287	Maintenan	œ)	M ²	PBCM 90°	f: 70% Confupp Low	611 fidence Iner Limit:	nterval	 0784 5519		
(Forced Shutdown Community of the Confidence Interest of the Confidence Interest of the Corrective Maintenance — Failure Events Only)	rval 33315 11287	Maintenan	œ)	M ²	PBCM 90°	f: 70% Confupp Low	611 Ridence In er Limit: er Limit:	nterval	 0784 5519		
(Forced Shutdown Community of the Confidence Intervented Lower Limit:	rval 33315 11287	Maintenan	œ)	Mo Minability Co	PBCM 90 Indi	ime Be 1:	fidence Inter Limit:	nterval	 0784 5519		
(Forced Shutdown Community of the Confidence Interest of the Confidence Interest of the Community of the Corrective Maintenance —	rval 33315 11287	Maintenan	œ)	Mo Minability Co	PBCM 90 Indi	ime Be 1:	611 Ridence In er Limit: er Limit:	nterval	0784 5519	3)	
(Forced Shutdown Community of the Confidence Intervented Lower Limit:	rval 33315 11287 (Forced 8	Maintenan	œ)	Mo mability Co	PBCM 90° Indi	ime Be 1:	fidence Inter Limit: ntenance 11.8 5.0 erved MF		0784 5519	3)	
(Forced Shutdown Community 18683 90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 2.6 MCMM _f : 2.0 Max. Observed MH:	rval 33315 11287	Maintenan	œ)	Mo mability Co	PECM 90 Indi	ime Be 1:	fidence Inter Limit: ntenance 11.8 5.0 erved MF		0784 5519	3)	
(Forced Shutdown Community 18683 90% Confidence Intervention 18683 90% Confidence Intervention 18683 Upper Limit:	rval 33315 11287	Maintenan	œ)	Mo mability Co	PECM 90 Indi	ime Be 1:	fidence Inter Limit: or Limit: ontenance		0784 5519	3)	
(Forced Shutdown Community 18683 90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 2.6 MCMM _f : 2.0 Max. Observed MH:	rval 33315 11287 (Forced 8	Maintenan	œ)	Mo mability Co	PBCM 90° Indiarrecti TTR _{CI} CMM _C Ma	ime Be 1:	fidence Inter Limit: ntenance 11.8 5.0 erved MF 17.7 230		250)	
(Forced Shutdown Company of the Confidence Intervention of the Corrective Maintenance — Failure Events Only) MTTRf: 2.6 MCMMf: 2.0 Max. Observed MH: MCMMf: 3.9 Variance: 39	rval 33315 11287 (Forced &	Maintenan Maintenan Maintenan	ce)	Mo mability Co MC	PBCM 90° Indiarrecti TTR _{CI} CMM _C Ma	ime Be f:	fidence Inter Limit: ntenance 11.8 5.0 erved MF 17.7 230		250	og Norm	

General Description: Pump, CTFGL 125 GPM 60 PSI 3450 RPM CID/APL Number(s): 017900027 Federal Stock Number: D- Equipment Identification Code: AH17 Technical Manual: 347-1954 Manufacturer: 95539 Economy Pumps Div. of C. H. Wheeler Mf Basic Data Ship Population: LSD 28, 29, 30, 31, 32, 33, 34, 35 Equip. Population/Ship Equip. Population in Data Base: Utilization Factors: S: A = 0.50; B = 0.50; C = 0.50 Total Equip. Operating Time (hours): Total Number of: Failures (CM _f): Total CM _f Repair Man-Hours: Maintenance Factors: Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20050 90% Confidence Interval Upper Limit: 42721 Lower Limit: Maintainability Indices Maintainability Indices	2331 Dwg. g. Co. : 2 ea/LSD hts (CM): 17
Equipment Identification Code: 347-1954 Manufacturer: 95539 Economy Pumps Div. of C. H. Wheeler Mf Basic Data Ship Population: LSD 28, 29, 30, 31, 32, 33, 34, 35 Equip. Population/Ship Equip. Population in Data Base: 16 Data Assessment Period Utilization Factors: S: A = 0.50; B = 0.50; C = 0.50 Total Equip. Operating Time (hours): 140352 Total Number of: Failures (CMf): Total CMf Repair Man-Hours: 164 Total CM Repair Man-Hours Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 20050 90% Confidence Interval Upper Limit: 42721 Lower Limit: Lower Limit: Lower Limit: Lower Limit:	g. Co. : 2 ea/LSD 1: 7/1/67 - 6/30/69
Technical Manual: 347-1954 Manufacturer: 95539 Economy Pumps Div. of C. H. Wheeler Mf Basic Data Ship Population: LSD 28, 29, 30, 31, 32, 33, 34, 35 Equip. Population/Ship Equip. Population in Data Base: 16 Data Assessment Period Utilization Factors: S: A = 0.50; B = 0.50; C = 0.50 Total Equip. Operating Time (hours): 140352 Total Number of: Failures (CM _f): 7 Corrective Maintenance Even Total CM _f Repair Man-Hours: 164 Total CM Repair Man-Hours Maintenance Factors: 0.67 Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20050 MTBCM _f : 90% Confidence Interval Upper Limit: 42721 Lower Limit: 10675 Lower Limit: Lower Limit: 10675	: 2 ea/LSD 1: 7/1/67 - 6/30/69 nts (CM):17
Technical Manual: 347-1954 Manufacturer: 95539 Economy Pumps D1v. of C. H. Wheeler Mf Basic Data Ship Population: LSD 28, 29, 30, 31, 32, 33, 34,35 Equip. Population/Ship Equip. Population in Data Base: 16 Data Assessment Period Utilization Factors: S: A = 0.50; B = 0.50; C = 0.50 Total Equip. Operating Time (hours): 140352 Total Number of: Failures (CM _f): 7 Corrective Maintenance Ever Total CM _f Repair Man-Hours: 164 Total CM Repair Man-Hours Maintenance Factors: 0.67 Mean Time Between Failure Mean Time Between Corrective Maintenance) MTBCM _f : 20050 MTBCM _f : 90% Confidence Interval Upper Limit: 42721 Upper Limit: 10675 Lower Limit: Lower Limit: 10675	: 2 ea/LSD 1: 7/1/67 - 6/30/69 nts (CM):17
Ship Population: LSD 28, 29, 30, 31, 32, 33, 34,35 Equip. Population/Ship Equip. Population in Data Base: 16 Data Assessment Period Utilization Factors: S: A = 0.50; B = 0.50; C = 0.50 Total Equip. Operating Time (hours): 140352 Total Number of: Failures (CMf): 7 Corrective Maintenance Even Total CMf Repair Man-Hours: 164 Total CM Repair Man-Hours Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 20050 MTBCMf: 20050 MTBCM 8256 90% Confidence Interval Upper Limit: 42721 Upper Limit: 10675 Lower Limit: Lower Limit: 10675	: 2 ea/LSD 1: 7/1/67 - 6/30/69 nts (CM):17
Ship Population: LSD 28, 29, 30, 31, 32, 33, 34,35 Equip. Population/Ship Equip. Population in Data Base: 16 Data Assessment Period Utilization Factors: S: A = 0.50; B = 0.50; C = 0.50 Total Equip. Operating Time (hours): 140352 Total Number of: Failures (CM _f): 7 Corrective Maintenance Even Maintenance Even Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure Mean Time Between Corrective Maintenance) MTBCM _f : 20050 MTBCM _f : 20050 MTBCM _f : 42721 Upper Limit: 42721 Upper Limit: 10675 Lower Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: 10675	1: 7/1/67 - 6/30/69 hts (CM):
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	
Total CM _f Repair Man-Hours:	
Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure Mean Time Between Correct (Forced Shutdown Corrective Maintenance) MTBCMf: 20050 MTBCM: 8256 90% Confidence Interval Upper Limit: 42721 Upper Limit: Upper Limit: Lower Limit: Lower Limit: Lower Limit:	: 250
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20050 90% Confidence Interval Upper Limit: 42721 Lower Limit: 10675 Reliability Indices Mean Time Between Correct MTBCM: 8256 90% Confidence Interval Upper Limit: 10675 Lower Limit: 10675	and residues in the second
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20050 90% Confidence Interval Upper Limit: 42721 Lower Limit: 10675 Mean Time Between Corrective Maintenance) MTBCM: 8256 90% Confidence Interval Upper Limit: 10675 Lower Limit: 10675	
Maintainability Indices	2957
	Service Services
Corrective Maintenance — (Forced Shutdown Corrective Maintenance — (Failure Events Only)	Correlate Maintenant
MTTR _f : 15.7 MTTR _{cm} : 9.8	D. A. was
MCMM _f : 15.0 MCMM _{cm} : 10.0	70
Max. Observed MH: Max. Observed MH:	
MCMM _f : 23.5 MCMM _{cm} : 14.7 Variance: 669 Variance: 335	
Indicated Distribution(s): Exponential Normal	Y NY
*REMARKS:	Log Normal

Noun Name: Pump, Fresh Water Serv	GPM 40 PSI 3500 RPM MCC VLT
General Description: Pump, CTFGL 60	
CID/APL Number(s): 017900069	Federal Stock Number: D-2870
Equipment Identification Code:AHl	ARRO (MRAS) HERON DESCRIPTION ARRONS
Technical Manual: None	
Manufacturer: 95539 Economy Pumps D1	v., C. H. Wheeler Mfg. Co.
CE INWA	Equip. Population/Ship: 2 ea/A0
Fauin Population in Data Rase	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S. A - U.5U; B - U.5	0; C = 0.50
Total Equip. Operating Time (hours):	52632
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):
Total CMe Repair Man-Hours: 6	Total CM Repair Man-Hours:56
Maintenance Factors: 0.6	7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval Upper Limit: 1025965	Mean Time Between Corrective Maintenance MTBCM: 5848 90% Confidence Interval Upper Limit: 11210
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval Upper Limit: 1025965 Lower Limit: 11095	Mean Time Between Corrective Maintenance MTBCM: 5848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 52632 90% Confidence Interval Upper Limit: 1025965 Lower Limit: 11095 Mainta	Mean Time Between Corrective Maintenance MTBCM:5848 90% Confidence Interval Upper Limit:11210 Lower Limit:3351
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 52632 90% Confidence Interval Upper Limit: 1025965 Lower Limit: 11095 Mainta	Mean Time Between Corrective Maintenance MTBCM: 5848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :52632 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:5848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :52632 90% Confidence Interval Upper Limit:1025965 Lower Limit:11095 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :4.0 MCMM _f :0.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance MTBCM:5848
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :52632 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:5848 90% Confidence Interval

Noun Name: Boiler, Main Steam	
	PST 9251 Sq. Ft. 456 Cu Ft. 1153TB * (1
CID/APL Number(s): 021450058 *(2)	Federal Stock Number: None
	ZAO5, ZAO6, ZAO7, ZAIO, ZAII & ZAI2
Technical Manual: None	
Manufacturer: 11440 Combustion Eng	gineering Co.
Ba	sic Data
Ship Population: DLG 29, 30, 31	Equip. Population/Ship: 4 ea/DLG
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.51, B=0.26, (C=0.0 (Boiler only)
Total Equip. Operating Time (nours):	
Total Number of: Failures (CM _f): 86	_ Corrective Maintenance Events (CM):433
	_ Total CM Repair Man-Hours:6463
Maintenance Factors: 0.6	7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874	MTBCM: 145 90% Confidence Interval Upper Limit: 181
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619	MTBCM: 145 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619	MTBCM:145 90% Confidence Interval Upper Limit:181 Lower Limit:127
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.1	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM $_{\mathbf{f}}$: $\begin{array}{c} 728 \\ \hline 90\%$ Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.1 MCMM _f : 3.4 Max. Observed MH: 50	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.1 MCMM _f : 3.4 Max. Observed MH: 50 MCMM _f : 6.1	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.1 MCMM _f : 3.4 Max. Observed MH: 50	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.1 MCMM _f : 3.4 Max. Observed MH: 50 MCMM _f : 6.1 Variance: 70 Indicated Distribution(s): Exponential	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.1 MCMM _f : 3.4 Max. Observed MH: 50 MCMM _f : 6.1 Variance: 70 Indicated Distribution(s): Exponential *REMARKS: (1) Includes Refractory.	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 728 90% Confidence Interval Upper Limit: 874 Lower Limit: 619 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.1 MCMM _f : 3.4 Max. Observed MH: 50 MCMM _f : 6.1 Variance: 70 Indicated Distribution(s): Exponential *REMARKS: (1) Includes Refractory.	MTBCM:

Noun Name: Boiler, CE, (DLG 29,	
	n 1375 PSI 9251 SQFT 456 CUFT 1153 TB*(1
	Federal Stock Number: None *(2)
Equipment Identification Code: ZAOO	thru ZA05
Technical Manual: None	
Manufacturer: 11440 Combustion Eng.	r. Inc. Marine Dept.
	Basic Data
Equip. Population in Data Base: 12 Utilization Factors: S: A = 0.51, B =	Equip. Population/Ship: 4 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69 0.26, C = 0.00
Total Equip. Operating Time (hours):	66261
Total Number of: Failures (CM _f): 25	Corrective Maintenance Events (CM): 165
	Total CM Repair Man-Hours:3891
Maintenance Factors:	
90% Confidence Interval Upper Limit: 3812 Lower Limit: 1898	90% Confidence Interval Upper Limit: 459 Lower Limit: 353
Lower Limit:1898	Lower Limit:
Ma	intainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
MTTR _f : 6.2	MTTR _{cm} :15.7
MCMM _f :6.0	MCMM _{cm} : 8.0
Max. Observed MH: 50	Max. Observed MH: 327
MCMM _f :9.2	MCMM _{cm} : 23.6
Variance: 124	Variance: 2027
Indicated Distribution(s): Exponential	Normal Log Normal X
*REMARKS: *(1) Includes Refract Foundations	tory, Fire Sides, Water Sides, Casings and

	ATMG 1000lbs. 29.125 in BBL (Boiler SYS Boi
CID/APL Number(s): 300080094 *(1	Federal Stock Number: 47517 Dwg #*(2)
i i i i i i i i i i i i i i i i i i i	100
Technical Manual: None	The state of the s
Manufacturer: 05/44 Todd Snipyards	S Corp. Seattle Div.
	Basic Data
Ship Population: DLG 29, 30, 31;	Equip. Population/Ship: 16 ea/DLG;
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.36; B =	
Total Equip. Operating Time (hours):	7.0000
	Corrective Maintenance Events (CM): 102
	Total CM Repair Man-Hours:
Maintenance Factors:0.67	Total CM Repair Man-Hours:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Mean Time Between Corrective Maintenance
мтвсм _f :3955	MTBCM:1822
MTBCM _f : 3955 90% Confidence Interval	MTBCM: 1822 90% Confidence Interval
90% Confidence Interval Upper Limit: 5119	MTBCM: 1822 90% Confidence Interval Upper Limit: 2162
MTBCM _f : 3955 90% Confidence Interval Upper Limit: 5119	MTBCM: 1822 90% Confidence Interval
90% Confidence Interval Upper Limit: 5119 Lower Limit: 3102	MTBCM: 1822 90% Confidence Interval Upper Limit: 2162
MTBCM _f :3955 90% Confidence Interval Upper Limit:5119 Lower Limit:3102	MTBCM:
MTBCM _f : 3955 90% Confidence Interval Upper Limit: 5119 Lower Limit: 3102 Main	MTBCM: 1822 90% Confidence Interval Upper Limit: 2162 Lower Limit: 1546 Intainability Indices Corrective Maintenance — (All Events)
MTBCM _f : 3955 90% Confidence Interval Upper Limit: 5119 Lower Limit: 3102 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 1822 90% Confidence Interval Upper Limit: 2162 Lower Limit: 1546 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.0
MTBCM _f :	MTBCM: 1822 90% Confidence Interval Upper Limit: 2162 Lower Limit: 1546 Intainability Indices Corrective Maintenance — (All Events)
MTBCM _f :	MTBCM:
$\begin{array}{c} \text{MTBCM}_{\mathbf{f}} \colon \underline{\qquad 3955} \\ 90\% \text{ Confidence Interval} \\ \text{Upper Limit: } \underline{\qquad 5119} \\ \text{Lower Limit: } \underline{\qquad 3102} \\ \\ \\ \text{Main Corrective Maintenance } -\text{ (Forced Shutdown Failure Events Only)} \\ \\ \text{MTTR}_{\mathbf{f}} \colon \underline{\qquad 2.6} \\ \\ \text{MCMM}_{\mathbf{f}} \colon \underline{\qquad 3.0} \\ \\ \text{Max. Observed MH: } \underline{\qquad 25} \\ \\ \end{array}$	MTBCM:90% Confidence Interval Upper Limit:162 Lower Limit:1546 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :5.0 MCMM _{cm} :
MTBCM _f :	### MTBCM:

ARINC RESEARCH CORP ANNAPOLIS MD

ESTABLISHMENT OF RELIABILITY AND MAINTAINABILITY DATA BANK FOR --ETC(U)

MAR 73 E J LUTZ, D J HOFFMAN

N00024-72-C-5388 AD-A054 500 MAR 73 E J LUTZ, D J HOFFMAN 0E13-01-1-1224-VOL-2 UNCLASSIFIED 2 of **8** AD AD54500 O VANCE

General Description: Head Soot Blw F	Rotor, Rtn CW (Boiler Sys. Main Boiler)
	Federal Stock Number: None *(1)
Equipment Identification Code: ZAO7	www.communications.com
Technical Manual: None	Control of the Contro
Manufacturer: 97370 Copes-Vulcan	Inc.
	Basic Data
Ship Population: DLG 29, 30, 31;	Equip. Population/Ship: 20 ea/DLG;
Equip. Population in Data Base:60	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.02;	B = 0.005; C = 0.0
Total Equip. Operating Time (hours):	10812
	Corrective Maintenance Events (CM): 122
Total CMc Repair Man-Hours: 97	Total CM Repair Man-Hours: 784
Maintenance Factors: 0.67	
MTBCM _f : 901 90% Confidence Interval	мтвсм:88
	90% Confidence Interval
Upper Limit: 1562	Upper Limit: 104
Upper Limit: 1562 Lower Limit: 556	Upper Limit: 104 Lower Limit: 76
Upper Limit: 1562 Lower Limit: 556	Upper Limit: 104 Lower Limit: 76 Maintainability Indices
Upper Limit:1562 Lower Limit:556	Upper Limit: 104 Lower Limit: 76 Maintainability Indices
Upper Limit:	Upper Limit: 104 Lower Limit: 76 Maintainability Indices Corrective Maintenance — (All Events)
Upper Limit:	Upper Limit: 104 Lower Limit: 76 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.3
Upper Limit:	Upper Limit: 104 Lower Limit: 76 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.3 MCMM _{cm} : 2.0
Upper Limit:	Upper Limit:
Upper Limit:	Upper Limit:
Upper Limit:	Upper Limit: 104 Lower Limit: 76 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.3 MCMM _{cm} : 2.0 Max. Observed MH: 84 MCMM _{cm} : 6.4 Variance: 114
Upper Limit:	Upper Limit:

General Description: Valve Relf Bar Sat	fety 2.50IPS 1420T1520PSI Flge
CID/APL Number(s): 882170292	Federal Stock Number: A3947C1420T1520PSI
Equipment Identification Code: ZA10	
Technical Manual: None	STATE CONTRACTOR OF THE PROPERTY OF THE PROPER
Manufacturer: 15187 Crosby Gage & Va	alve Co.
	Basic Data
Ship Population: DLG 29, 30, 31;	Equip. Population/Ship: 8 ea/DLG;
Equip. Population in Data Base: 24	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.51; B	= 0.26; C = 0.0
Total Equip. Operating Time (hours):	132521
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):10
Total CM _f Repair Man-Hours: 9	Total CM Repair Man-Hours: 276
Maintenance Factors: 0.67	
Mean Time Between Failure	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521	Mean Time Between Corrective Maintenance) MTBCM: 13252
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval	Mean Time Between Corrective Maintenance) MTBCM: 13252 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval Upper Limit: 2583255	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:24426
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval	Mean Time Between Corrective Maintenance) MTBCM: 13252 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval Upper Limit: 2583255 Lower Limit: 27935	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval Upper Limit: 2583255 Lower Limit: 27935 Mair	Mean Time Between Corrective Maintenance MTBCM: 13252 90% Confidence Interval Upper Limit: 24426 Lower Limit: 7812
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval Upper Limit: 2583255 Lower Limit: 27935 Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 13252 90% Confidence Interval Upper Limit: 24426 Lower Limit: 7812
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval Upper Limit: 2583255 Lower Limit: 27935 Mair Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 13252 90% Confidence Interval Upper Limit: 24426 Lower Limit: 7812 Intainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval Upper Limit: 2583255 Lower Limit: 27935 Mair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.7	Mean Time Between Corrective Maintenance MTBCM: 13252 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132521 90% Confidence Interval Upper Limit: 2583255 Lower Limit: 27935 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.7 MCMM _f : 0.0	Mean Time Between Corrective Maintenance MTBCM: 13252 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13252 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13252 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13252 90% Confidence Interval

Noun Name: Valve Drum Pilot Actuator		
General Description: Valve Relf Bar Safety		
CID/APL Number(s): 882170293		
Equipment Identification Code: ZAll.	at all more parties and more parties and an arrangement of the second se	<u>at manasa.</u>
Technical Manual: None		
Manufacturer: 15187 Crosby Gage & Valv	ve Co.	socialist out
Bar	sic Data	
Ship Population: DLG 29, 30, 31;	Equip. Population/Ship: 4 ea/	DLG:
Equip. Population in Data Base:12	Data Assessment Period: 7/1/67	- 6/30/69
Utilization Factors: S: A = 0.51, B = 0.26		
Total Equip. Operating Time (hours): 66261	Service Company For Company	Committee Committee
Total Number of: Failures (CM _f):1	_ Corrective Maintenance Events (CM): _	.24
Total CM _f Repair Man-Hours: 7.5	Total CM Repair Man-Hours:	422
Maintenance Factors: 0.67		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Mainter	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 66261 90% Confidence Interval	Mean Time Between Corrective Mainter MTBCM: 2760 90% Confidence Interval	angsi gazenw po wo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 66261 90% Confidence Interval Upper Limit: 1291637	Mean Time Between Corrective Mainter MTBCM: 2760 90% Confidence Interval Upper Limit: 4004	angsi gazenw po wo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 66261 90% Confidence Interval	Mean Time Between Corrective Mainter MTBCM: 2760 90% Confidence Interval	angsi gazenw w
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 66261 90% Confidence Interval Upper Limit: 1291637 Lower Limit: 13968	Mean Time Between Corrective Mainter MTBCM: 2760 90% Confidence Interval Upper Limit: 4004	angsi gazenw w
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 66261 90% Confidence Interval Upper Limit: 1291637 Lower Limit: 13968 Maintain	Mean Time Between Corrective Mainter MTBCM: 2760 90% Confidence Interval	angsi gazenw po wo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 66261 90% Confidence Interval Upper Limit: 1291637 Lower Limit: 13968 Maintaine Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.0	Mean Time Between Corrective Mainter MTBCM: 2760 90% Confidence Interval	angsi gazenw po wo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 66261 90% Confidence Interval Upper Limit: 1291637 Lower Limit: 13968 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.0 MCMM _f : 0	Mean Time Between Corrective Mainter MTBCM:	angsi gazenw po wo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainter MTBCM: 2760 90% Confidence Interval Upper Limit: 4004 Lower Limit: 1963 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.7 MCMM _{cm} : 6.8 Max. Observed MH: 157	angsi gazenw po wo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainter MTBCM:	angsi gazenw po wo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainter MTBCM: 2760 90% Confidence Interval Upper Limit: 4004 Lower Limit: 1963 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.7 MCMM _{cm} : 6.8 Max. Observed MH: 157	angsi gazenw po wo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 66261 90% Confidence Interval Upper Limit: 1291637 Lower Limit: 13968 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.0 MCMM _f : 0 Max. Observed MH: 0 MCMM _f : 7.5	Mean Time Between Corrective Mainter MTBCM:	angsi gazenw po wo

Noun Name: Valve Superheater Safety	, Main Boiler
	ty 2.50 IPS 1325T1417PSI Flge
	Federal Stock Number: A39350REVCMOD2
Equipment Identification Code: ZA12	
Technical Manual: 0951-012-0510	
	alve Co.
В	asic Data
Ship Population: DLG 29, 30, 31;	Equip. Population/Ship: 4 ea/DLG;
	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.51, B = 0.3	26. C = 0.00
Total Equip. Operating Time (hours):	66261
Total Number of: Failures (CMf): 0	Corrective Maintenance Events (CM):10
Total CMe Repair Man-Hours:0	Total CM Repair Man-Hours:325
Maintenance Factors:	
MTBCM _f : 95594**	
90% Confidence Interval	
Upper Limit:	Upper Limit:
Lower Limit:	Lower Limit:
Maintai	inability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	penil areas as pur
MTTR _f : 0	MTTR _{cm} : 21.7 MCMM _{cm} : 26.5
MCMM _f : 0	MCMM _{cm} : 26.5 Max. Observed MH: 75
Max. Observed Mil.	
MCMM _f : 0	- Cm
Variance:0	Variance: 427
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: **The highest calculated operat	ing time for an equipment in this
study is hours.	

General Description: Boiler, Main, 137	75 PSI 430 cu.ft. *(1)
	Federal Stock Number: None
Equipment Identification Code: ZAOO throu	igh ZA05, ZA06, ZA07, ZA10, ZA11, ZA12
	351-0739
Manufacturer: Babcock & Wilcox	CONTRACTOR OF THE CONTRACTOR O
	Basic Data
Ship Repulation: DLG 9.10.11.12.14.15	5,18*(2) Equip. Population/Ship: 4 ea/DLG
	Data Assessment Period: 7/1/66 - 12/31/
	0.26, $C = 0.0$ (Boiler only)
Total Equip. Operating Time (hours): 1342	
Total Number of: Failures (CM _f): 74	Corrective Maintenance Events (CM): 668
	Total CM Repair Man-Hours:21967
Maintenance Factors:).67
Turing I words.	
Da	liability Indices
Re	liability Indices
Rean Time Between Failure	
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 201 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816	Mean Time Between Corrective Maintenance MTBCM: 201
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.5	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.5 MCMM _f : 6.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.5 MCMM _f : 6.0 Max. Observed MH: 3934**	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.5 MCMM _f : 6.0 Max. Observed MH: 3934**	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.5 MCMM _f : 6.0 Max. Observed MH: 3934**	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.5 MCMM _f : 6.0 Max. Observed MH: 3934**	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.5 MCMM _f : 6.0 Max. Observed MH: 3934** MCMM _f : 70.0 Variance: 206365 Indicated Distribution (s): Exponential	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1816 90% Confidence Interval Upper Limit: 2228 Lower Limit: 1543 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.5 MCMM _f : 6.0 Max. Observed MH: 3934** MCMM _f : 70.0 Variance: 206365 Indicated Distribution(s): Exponential — *REMARKS:*(1) Includes: Refracto	MTBCM:

General Description: Boiler, Main 1375	00 PSI) PSI 560 cu.ft. *(1)
CID/APL Number(s): 021550074	
Equipment Identification Code: ZAOO thru ZA	AO5, ZAO6, ZAO7, ZA10, ZA11, ZA12
Technical Manual: 351-0685, 351-0675,	351-0615
Manufacturer: Foster - Wheeler	TO SERVICE AND REAL PROPERTY OF A SAND WAS A
В	asic Data
DIG 8 10 20 22 23	24 Equip. Population/Ship: 4 ea/DLG
Ship Population: DLG 0, 19, 20, 22, 23,	Data Assessment Period: 7/1/66 - 12/31/6
Equip. Population in Data Base:	.26, C = 0.0 (Boiler only)
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM.): 43	Corrective Maintenance Events (CM):467
Total Number of: Failures (CMF).	17382
	Total CM Repair Man-Hours:17382
Maintenance Factors: 0.67	
Relia	bility Indices .
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1999.6	MTBCM:184.
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1999.6 90% Confidence Interval	MTBCM: 184.
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1999.6 90% Confidence Interval Upper Limit: 2700	MTBCM:84. 90% Confidence Interval Upper Limit:204
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1999.6 90% Confidence Interval	MTBCM: 184.
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1999.6 90% Confidence Interval Upper Limit: 2700 Lower Limit: 1558	MTBCM:84. 90% Confidence Interval Upper Limit:204
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1999.6 90% Confidence Interval	MTBCM: 90% Confidence Interval Upper Limit:204 Lower Limit:169 inability Indices
(Forced Shutdown Corrective Maintenance) MTBCMf: 1999.6 90% Confidence Interval	MTBCM: 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCMf: 1999.6 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1999.6 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

	General 1375 PSI 430 and 560 cu.ft. None None
Equipment Identification Code:	-0685
Manufacturer:Babcock & Wilcox	
Manufacturer:Babcock & Wilcox	and Foblet - wheeler
	Basic Data
	nieta visitei
	2,14,15,*(2) Equip. Population/Ship: 4 ea/DLG
Equip. Population in Data Base:	68 Data Assessment Period: 7/1/66 - 12/31/6
Utilization Factors: D. A-U. J., D-	-0.20, 0-0.0
Total Equip. Operating Time (hours):	220262
	19 Corrective Maintenance Events (CM): 151
Total CMe Repair Man-Hours:	265 Total CM Repair Man-Hours: 3392
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maint	
	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 11600	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 11600 90% Confidence Interval	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Mainte MTBCM _f : 11600 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval Upper Limit: Lower Limit:
(Forced Shutdown Corrective Mainte MTBCM _f : 11600 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Mainted MTBCM _f : 11600 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices
(Forced Shutdown Corrective Mainted MTBCM _f : 11600 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices own Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices own Corrective Maintenance — (All Events) MTTR _{cm} : 15.0
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM: 1460 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices own Corrective Maintenance — (All Events) MTTR _{cm} : 15.0 MCMM _{cm} : 4.2 Max. Observed MH: 238
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM:

Cananal Decemention:	375 PST 430 a	ind 560 cu. ft. Boilers	SESSION SOLE IN SOCIAL
CID (ADI Number(s):	21200163 *(1)	Federal Stock Number:NO	ne
Equipment Identification Code:	ZAOI	1000	apane masakawa
Toohnical Manual: 151-U01U.	321-0002		
Babcock & Wi	lcox and Fost	er-Wheeler	ST. AMERICAN
Manufacturer			
	Basi	c Data	
120 to 2 (auto)		*(2)	a /DLG
Ship Population: DLG 8,9,10,	11,12,14,15,	*(2)Equip. Population/Ship: 4 e Data Assessment Period: 7/1	/66 - 12/31/6
Equip. Population in Data Base: _			motors mineral
Utilization Factors: S: A=0.51	B=0.26, C=0	220262	1.16st State Com-
Total Equip. Operating Time (hou	urs):	ZZOZOZ	144
Total Number of Failures (CM	(e): 4	Corrective Maintenance Events (Civ	6711
Total CM, Repair Man-Hours:	111	Total CM Repair Man-Hours:	0/4
Maintenance Factors:	0.67		
	Reliabil	lity Indices	
		Mean Time Between Corrective Ma	intenance
Mean Time Between Failure	- Maintananao)	Mean Time Between Corrective Ma	dras himasi
(Forced Shutdown Corrective	e Maintenance)	1522	
MTBCM _f :55066		MTBCM:	
90% Confidence Interval		90% Confidence Interval Upper Limit:	
	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW	Lower Limit:	A STATE OF
Upper Limit:			The second secon
Lower Limit:		Lower Limit.	
[1] J. C. C. Connection of the Control of the Co			
[1] J. C. C. Connection of the Control of the Co		ability Indices	
Lower Limit:	Maintain		
Lower Limit: Corrective Maintenance — (Force	Maintain	ability Indices Corrective Maintenance — (All Eve	
Corrective Maintenance — (Force	Maintain	Corrective Maintenance — (All Evenometric MTTR _{cm} : 30.1	
Corrective Maintenance — (Force Failure Events Only) MTTR _f : 18.4	Maintain ed Shutdown	MTTR _{cm} : 30.1 MCMM _{cm} : 9.1	ents)
Corrective Maintenance — (Force Failure Events Only) MTTRe: 18.4	Maintain	MTTR _{cm} : 30.1 MCMM _{cm} : 9.1 Max. Observed MH:	
Corrective Maintenance — (Force Failure Events Only) MTTR _f : 18.4 MCMM _f : 18.8 Max. Observed MH:	Maintain ed Shutdown	MTTR _{cm} : 30.1 MCMM _{cm} : 9.1 Max. Observed MH: 46.3	ents)
Corrective Maintenance — (Force Failure Events Only) MTTR _f : 18.4 MCMM _f : 18.8 Max. Observed MH:	Maintain ed Shutdown	MTTR _{cm} : 30.1 MCMM _{cm} : 9.1 Max. Observed MH:	ents)
Corrective Maintenance — (Force Failure Events Only) MTTR _f : 18.4 MCMM _f : 18.8 Max. Observed MH: 27.7 Variance: 1052	Maintain ed Shutdown 73	Corrective Maintenance — (All Even MTTR _{cm} : 30.1 MCMM _{cm} : 9.1 Max. Observed MH: 46.3 Variance: 14536	ents)
Corrective Maintenance — (Force Failure Events Only) MTTR _f : 18.4 MCMM _f : 18.8 Max. Observed MH: 27.7 Variance: 1052 Indicated Distribution(s): Exp	Maintain ed Shutdown 73	MTTR _{cm} : 30.1 MCMM _{cm} : 9.1 Max. Observed MH: 46.3	1070 Log Normal

General Description: 1375 PSI 43	80 & 560 cu ft.
CID/APL Number(s): 021200163	
Equipment Identification Code:	
Technical Manual: 351-0610, 351-068	
Manufacturer: Babcock & Wilcox, F	
	Basic Data
DIG 8 0 10 11 12 1	14 15 #(2)
	14,15 *(2) Equip. Population/Ship: 4 ea/DLG Data Assessment Period: 7/1/66 - 12/31/
Utilization Factors: S: A=0.51, B=0.3	26. C=0.0
Total Equip. Operating Time (hours):	
Total Number of: Failures (CMs):	Corrective Maintenance Events (CM): 38
Maintenance Factors:	0.67 Total CM Repair Man-Hours: 1897
Mean Time Retween Failure	Reliability Indices Mean Time Retween Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenar	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenan	Mean Time Between Corrective Maintenance nce) MTBCM: 5798 90% Confidence Interval
(Forced Shutdown Corrective Maintenar MTBCM _f : 220262 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance nce) MTBCM: 5798 90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Maintenar MTBCM _f : 220262 90% Confidence Interval	Mean Time Between Corrective Maintenance nce) MTBCM: 5798 90% Confidence Interval
(Forced Shutdown Corrective Maintenant MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance nce) MTBCM: 5798 90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Maintenant MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance nce) MTBCM: 5798 90% Confidence Interval Upper Limit: Lower Limit:
(Forced Shutdown Corrective Maintenar MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit: N Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 5798
(Forced Shutdown Corrective Maintenar MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit: M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.07	Mean Time Between Corrective Maintenance MTBCM: 5798
(Forced Shutdown Corrective Maintenar MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenar MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenar MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenar MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenar MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

General Description:	1375 PS1 430 &	560 cu. ft. Boilers	
CID/APL Number(s):	021200163 *(1)	Federal Stock Number: Nor	ne
Equipment Identification Co	ode: ZA03000	- P. S. Olygon - Sept. Dept. and the	Militari I Ambiriquipi
Technical Manual: 351-0	610, 351-0685		Strong Commercial
Manufacturer: Babcock	& Wilcox and Fost	er-Wheeler	
	Basic	Data	
DIC 8 C	10 11 10 14 15 4	(2)	on /DIC
		(2) Equip. Population/Ship: 4	
		Data Assessment Period: 7/1	700 - 12/31/0
Utilization Factors: S: A=	0.51, B=0.20, C=0	220262	reserve to the same of
Total Equip. Operating Time	e (hours):	Company Michael Rose (CM	280
		Corrective Muintenance Events (CM	
Total CM _f Repair Man-Hour	rs: 4842	Total CM Repair Man-Hours:	18220
Maintenance Factors:	0.6	7	NAMES OF THE STREET
	Reliabilit	y Indices	
nacotrome Marcon			
Mean Time Between Failure	Meta alexandi escil mode	y Indices Mean Time Between Corrective Mai	ntenance
(Forced Shutdown Cor	rective Maintenance)	Mean Time Between Corrective Mai	ntenance
	rective Maintenance)		ntenance
(Forced Shutdown Cor	rective Maintenance)	Mean Time Between Corrective Mai MTBCM: 787 90% Confidence Interval	
(Forced Shutdown Cor MTBCM _f : 11013	rective Maintenance)	Mean Time Between Corrective Mai MTBCM: 787 90% Confidence Interval Upper Limit:	HORE BANKEY Language (ACCESTA MERCHANI PER LYMPE)
(Forced Shutdown Cor MTBCM _f : 11013 90% Confidence Interv	rective Maintenance)	Mean Time Between Corrective Mai MTBCM: 787 90% Confidence Interval	HORE BANKEY Language (ACCESTA MERCHANI PER LYMPE)
(Forced Shutdown Cor MTBCM _f : 11013 90% Confidence Interv Upper Limit:	rective Maintenance)	Mean Time Between Corrective Mai MTBCM: 90% Confidence Interval Upper Limit: Lower Limit:	HORE BANKEY Language (ACCESTA MERCHANI PER LYMPE)
(Forced Shutdown Cor MTBCM _f : 11013 90% Confidence Interv Upper Limit:	rective Maintenance)	Mean Time Between Corrective Mai MTBCM: 787 90% Confidence Interval Upper Limit:	HORE BANKEY Language (ACCESTA MERCHANI PER LYMPE)
(Forced Shutdown Cor MTBCM _f : 11013 90% Confidence Interv Upper Limit: Lower Limit:	rective Maintenance) al Maintainab	Mean Time Between Corrective Mai MTBCM:	CONTRACTOR
(Forced Shutdown Cor MTBCM _f : 11013 90% Confidence Interv Upper Limit: Lower Limit:	rective Maintenance) al Maintainab	Mean Time Between Corrective Mai MTBCM: 90% Confidence Interval Upper Limit: Lower Limit:	CONTRACTOR
(Forced Shutdown Cor MTBCMf: 11013 90% (Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I	rective Maintenance) al Maintainab	Mean Time Between Corrective Mai MTBCM:	CONTRACTOR
(Forced Shutdown Cor MTBCM _f : 11013 90% (Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I Failure Events Only) MTTR _f : 161.4	rective Maintenance) al Maintainab	Mean Time Between Corrective Mai MTBCM:	CONTRACTOR
(Forced Shutdown Cor MTBCM _f : 11013 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (1 Failure Events Only) MTTR _f : 161.4 MCMM _f : 20.0	rective Maintenance) al Maintainab	Mean Time Between Corrective Mai MTBCM:	CONTRACTOR
(Forced Shutdown Cor MTBCM _f : 11013 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I Failure Events Only) MTTR _f : 161.4 MCMM _f : 20.0 Max. Observed MH:	rective Maintenance) al Maintainab	Mean Time Between Corrective Main MTBCM: 787 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Modern Limit: 100 Lower Limit: 100	CONTRACTOR
(Forced Shutdown Cor MTBCMf: 11013 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance - (I Failure Events Only) MTTRf: 161.4 MCMMf: 20.0 Max. Observed MH: MCMMf: 242.0	rective Maintenance) al Maintainab	Mean Time Between Corrective Mai MTBCM:	CONTRACTOR
(Forced Shutdown Cor MTBCM _f : 11013 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I Failure Events Only) MTTR _f : 161.4 MCMM _f : 20.0 Max. Observed MH:	rective Maintenance) al Maintainab	Mean Time Between Corrective Mai MTBCM:	ts)
(Forced Shutdown Cor MTBCMf: 11013 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance - (I Failure Events Only) MTTRf: 161.4 MCMMf: 20.0 Max. Observed MH: MCMMf: 242.0	rective Maintenance) al Maintainab	Mean Time Between Corrective Mai MTBCM:	CONTRACTOR

Noun Name: Casings, Boiler, Main S	Steam (1200 PST)
General Description: 1375 PSI 430 8	
CID/APL Number(s): 021200163 *(1)	
Equipment Identification Code: ZA0400	00
Technical Manual: 351-0610, 351-0685	SECULES
Manufacturer: Babcock & Wilcock and I	Foster-Wheeler
	The second section of the sect
В	Basic Data
Ship Population: DLG 8,9,10,11,12,14,15	5 *(2) Equip Population/Ship: 4 ea/DLG
Equip. Population in Data Base: 68	Data Assessment Period: 7/1/66 - 12/31/67
Utilization Factors: S: A=0.51, B=0.26, (0=0.0
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f): 11	Corrective Maintenance Events (CM):104
Total CM _f Repair Man-Hours:182	Total CM Repair Man-Hours:4116
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maintenance) MTBCM _f : 10024 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM:
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f :10 MCMM _f :2.5 Max. Observed MH:136	MTTR _{cm} :
MCMM _f :16.5 Variance:1587	MCMM _{cm} : 39.6 Variance: 10765
Indicated Distribution(s): Exponential	Normal Log Normal X
*REMARKS: (1) 021550074 (2) DLG 1	8, 19, 20, 22, 23, 24, 25, 26, 27, 28, 32

General Description: 1375 PSI 430 &	
CID/APL Number(s): 021200163 *(1)	
Equipment Identification Code: ZA050	000
Technical Manual: 351-0610, 351-0685	
Manufacturer: Babcock & Wilcox and Fo	oster-Wheeler
	Cell otes
- reliefor a	Basic Data
Ship Population: DLG 8,9,10,11,12,14,1	5 *(2) Equip. Population/Ship: 4 ea/DLG
Equip. Population in Data Base:	Data Assessment Period: 7/1/66 - 12/31/
Utilization Factors: S: A=0.51, B=0.26,	C=0.0
Total Equip. Operating Time:	220262
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM): 10
Total CM _f Repair Man-Hours: 4.3	Total CM Repair Man-Hours: 605
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 110132	Mean Time Between Corrective Maintenance MTBCM: 22026
(Forced Shutdown Corrective Maintenance) MTBCM _f : 110132 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 22026 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 22026 90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 110132 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 22026 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 22026 90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :10132 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name	Steam (1200 PSI)
General Description: 1375 PSI 430 & 5	The second secon
CID/APL Number(s): 0121200163 *(1)	
Equipment Identification Code: ZA060	
Technical Manual: 351-0610, 351-0685	
Manufacturer: Babcock & Wilcox and F	
Manufacturer.	
	Basic Data
	4 ea/Boiler - F.
Ship Population: DLG 8,9,10,11,12,14,1	5 *(2) Equip. Population/Ship: 6 ea/Boiler - B&
Equip. Population in Data Base: 360	Data Assessment Period: 7/1/66 - 12/31/67
Utilization Factors: S: A=0.26, B=0.13,	
Total Equip. Operating Time:	55 h 0 o h
Total Number of: Failures (CM _f): 16	
Total CM _f Repair Man-Hours: 42	Total CM Repair Man-Hours: 948
	67
(Forced Shutdown Corrective Maintenance)	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 36890	MTBCM: 4790
MTBCM _f : 36890 90% Confidence Interval	90% Confidence Interval
MTBCM _f : 36890 90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit:
MTBCM _f : 36890 90% Confidence Interval	90% Confidence Interval
MTBCM _f : 36890 90% Confidence Interval Upper Limit: Lower Limit:	90% Confidence Interval Upper Limit:
MTBCM _f :36890 90% Confidence Interval Upper Limit: Lower Limit: Mainta	90% Confidence Interval Upper Limit: Lower Limit:
MTBCM _f :36890 90% Confidence Interval Upper Limit: Lower Limit: Mainta	90% Confidence Interval Upper Limit: Lower Limit: ainability Indices
MTBCM _f :36890 90% Confidence Interval Upper Limit: Lower Limit: Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :5.3
MTBCM _f :	90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :5.3 MCMM:2.5
MTBCM _f :36890 90% Confidence Interval Upper Limit: Lower Limit: Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :1.7	90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :5.3
MTBCM _f :	90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :
MTBCM _f :	90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :
MTBCM _f :	90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :
MTBCM _f :	90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :

General Description: 1375			
CID/APL Number(s): 02120	00163 *(1)	Federal Stock Number:	None
Equipment Identification Code:		0000122 / 2210000	<u> 1666 - Translit Independig</u>
Technical Manual: 351-0610,	351-0685		EEE Himself (granese
Manufacturer: Babcock & Wil	lcox and Fost	ter-Wheeler	Consider Commencer
	Basi	ic Data	
7 T T T T T T T T T T T T T T T T T T T			ll ea/Boiler - F.
Ship Population: DLG 8,9,10,1	1,12,14,15	(2) Equip. Population/Ship:	10 ea/BOILER - BE
Equip. Population in Data Base:	744	Data Assessment Period:	7/1/66 - 12/31/6
Utilization Factors: S: A=0.02	B=0.01, C=	=0.0	
Total Equip. Operating Time:	19.3000	1868000	Challenger's constitution?
Total Number of: Failures (CM _f)): _35	Corrective Maintenance Event	s (CM):188
Total CM _f Repair Man-Hours:	336	Total CM Renair Man Hours	1888
Maintenance Factors:		Total Civi Repair Man-Hours.	
	Reliabili	ity Indices	
Mean Time Between Failure	Reliabili	ity Indices Mean Time Between Corrective	e Maintenance
Mean Time Between Failure (Forced Shutdown Corrective I			e Maintenance
	Maintenance)		
(Forced Shutdown Corrective	Maintenance)	Mean Time Between Corrective	Susanti Prosessi Susanti Prosessi
(Forced Shutdown Corrective I MTBCM _f : 53420	Maintenance)	Mean Time Between Corrective MTBCM: 9945	2 mechania bowota <u>150</u> 38
(Forced Shutdown Corrective I MTBCM _f : 53420 90% Confidence Interval	Maintenance)	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval	S mechania boseita SCOSS
(Forced Shutdown Corrective Interval 90% Confidence Interval Upper Limit:	Maintenance)	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval Upper Limit:	Free Property Services (1975) - 1975 (1975)
(Forced Shutdown Corrective Interval 90% Confidence Interval Upper Limit:	Maintenance) Maintainal	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval Upper Limit: Lower Limit:	Eminate bosetti SORE
(Forced Shutdown Corrective Interval 90% Confidence Interval Upper Limit:	Maintenance) Maintainal	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (All	Emiliaria teneria ECOS
(Forced Shutdown Corrective Interval 53420 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Section Failure Events Only)	Maintenance) Maintainal	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Modices Corrective Maintenance — (All MTTR _{cm} : 6.7	Eminate bosetti SORE
(Forced Shutdown Corrective Interval 53420 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Section Failure Events Only) MTTR _f : 6.4 MCMM _f : 3.0	Maintenance) Maintainal	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (All	Events)
(Forced Shutdown Corrective Interval 53420 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Section Failure Events Only) MTTR _f : 6.4	Maintenance) Maintainal	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (All MTTR _{cm} : 6.7 MCMM _{cm} : 4.0 Max. Observed MH:	Eminate bosetti SORE
(Forced Shutdown Corrective Interval State of St	Maintenance) Maintainal	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (All MTTR _{cm} : 6.7 MCMM _{cm} : 4.0 Max. Observed MH: MCMM _{cm} : 10.0	Events)
(Forced Shutdown Corrective 1974 1975 1976 1976 1976 1976 1976 1976 1976 1976	Maintenance) Maintainal	Mean Time Between Corrective MTBCM: 9945 90% Confidence Interval Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (All MTTR _{cm} : 6.7 MCMM _{cm} : 4.0 Max. Observed MH:	Events)

C	V Valve, Boiler Main Steam (1200 PSI)
	1375 PSI 430 & 560 cu. ft. Boilers
	021200163*(1) Federal Stock Number: None
Equipment Identification Code	
Technical Manual: 351-06	
Manufacturer: Babcock &	Wilcox and Foster-Wheeler
	Basic Data
Ship Population: DLG 8,9,	10,11,12,14,15 *(2) Equip. Population/Ship: 8 ea/DLG
Equip. Population in Data Base	Data Assessment Period: 7/1/66 - 12/3
Utilization Factors: S:A=0.5	
Total Equip. Operating Time	ours):440524
	CM _f): 2 Corrective Maintenance Events (CM): 44
Total CMe Repair Man-Hours:	14 Total CM Repair Man-Hours: 1183
Maintenance Factors:	
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval	MTBCM: 10012 90% Confidence Interval
(Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval Upper Limit:	ive Maintenance) MTBCM:
(Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval	ive Maintenance) MTBCM:
(Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval Upper Limit:	ive Maintenance) MTBCM:
(Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 10012 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices
(Forced Shutdown Correct MTBCMf: 220262 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 10012 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices
(Forced Shutdown Correct MTBCMf: 220262 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Force Failure Events Only)	MTBCM: 10012 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices ed Shutdown Corrective Maintenance — (All Events)
(Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR _f : 4.7	MTBCM: 10012 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices ed Shutdown Corrective Maintenance — (All Events) MTTR _{cm} : 17.9
(Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR _f : 4.7	MTBCM: 10012 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices ed Shutdown Corrective Maintenance — (All Events) MTTR _{cm} : 17.9
(Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR _f : 4.7 MCMM _f : 7.0 Max. Observed MH:	MTBCM: 10012 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit:
(Forced Shutdown Correct MTBCM _f :	MTBCM: 10012 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit:
(Forced Shutdown Correct MTBCM _f : 220262 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR _f : 4.7 MCMM _f : 7.0 Max. Observed MH: MCMM _f : 7.0 Variance: 18	MTBCM: 10012 90% Confidence Interval Upper Limit: Lower Limit: Maintainability Indices ed Shutdown Corrective Maintenance — (All Events) MTTR _{cm} : 17.9 MCMM _{cm} : 11.0 Max. Observed MH: 259 MCMM _{cm} : 26.9

Noun Name: Valve, Drum Pilot Safet	
General Description: 1375 PSI 430 & 5	
CID/APL Number(s): 021200163 *(1)	
Equipment Identification Code: ZA1100	
Technical Manual: 351-0610, 351-0685	
Manufacturer: Babcock & Wilcox and Fo	ster-Wheeler
Ship Population: DLG 8,9,10,11,12,14 * Equip. Population in Data Base: 68	Data Assessment Period: 7/1/66 - 12/31/6
Utilization Factors: S: A=0.51, B=0.26,	<u>C=0.0</u>
Total Equip. Operating Time (hours):	220262
Total Number of: Failures (CM _f): 4	Corrective Maintenance Events (CM):33
Total CMc Repair Man-Hours: 33	Total CM Repair Man-Hours: 265
Maintenance Factors:0_6	7
90% Confidence Interval Upper Limit:	MTBCM: 6675 90% Confidence Interval Upper Limit: Lower Limit:
and the second s	inability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :5.5	MTTR _{cm} :5.4
MCMM _f : 8.2	MCMM _{cm} : 7.0
Max. Observed MH:16	Max. Observed MH: 24
MCMM _f :8.0 Variance:40	Wariance: 44
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) 021550074 (2) DLG 1 32	8, 19, 20, 22, 23, 24, 25, 26, 27, 28,

Total served Total served served served served served served served served served served served served served served serve
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Noun Name: Boiler, Main Propulsion	
General Description: Boiler, 700 PSI 56	51 sq. ft. 372 cu. ft.
	Federal Stock Number: None *(3)
Equipment Identification Code: ZA00000	
echnical Manual: 351-0527	
Manufacturer: Foster Wheeler Corporati	on
Bas	ic Data
Ship Population: DE 1025,1026,1027 *(2)	
Equip. Population in Data Base:12	Data Assessment Period: Jan 1967-July 1969
Jtilization Factors: 1.00 (Boiler Hours)	
Total Equip. Operating Time (hours): 54213	
otal Number of: Failures (CM _f): 29	Corrective Maintenance Events (CM): 289
Total CM _e Repair Man-Hours:1513	Total CM Repair Man-Hours: 14529
Maintenance Factors: See Appendix C	
Reliabil	lity Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 1869	MTBCM:188
90% Confidence Interval	90% Confidence Interval
Upper Limit: 2613	Upper Limit: 207
Lower Limit: 1371	Lower Limit: 170
Maintains	ability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 12.1 14.2	MTTR _{cm} : 11.6
MCMMf:	MCMM _{cm} :
Max. Observed MH:	Max. Observed MH:
MCMM _f : 52.2	MCMM _{cm} : 50.3
Variance:	Variance: 39164.4
Indicated Distribution(s): Exponential	Normal Log Normal
*PFMARKS: *(1) 021550063, *(2) 1	028,1029,1030; *(3) Dwg-NY-540-72
REMARKS.	
**Indices previously develo	oped for ARINC Research Publication

Noun Name: Refractory, Main Propulsi	on Steam Boiler
General Description: 700 PSI 5651 sq. ft.	372 cu. ft. Boiler
CID/APL Number(s): 021550062 *(1)	
Equipment Identification Code: ZA01000	100 F. K. Sho, addigational temperary
Technical Manual: 351-0527	TO SEE THE SECOND OF THE SECON
Manufacturer: Foster Wheeler Corp.	CONTROL SERVICE SERVICE SERVICES
Basic	: Data
Ship Population: DE 1025, 1026, 1027, 1028	*(2) Equip. Population/Ship: 2 ea/DE
Equip. Population in Data Base: 12	Data Assessment Period: Jan 67-July 69
Utilization Factors: 1.00 (Boiler Hours)	
Total Equip. Operating Time (hours): 54213.1	
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM): 2950
	Total CM Repair Man-Hours: 49
Maintenance Factors: See Appendix C	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 27106.5 90% Confidence Interval Upper Limit: 152498 Lower Limit: 8605.3	Mean Time Between Corrective Maintenance MTBCM: 1106.4 90% Confidence Interval Upper Limit: 1422.9 Lower Limit: 872.3
Maintainat	pility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :7.75	MTTR _{cm} : 16.6
MCMM _f : 10.2	MCMM _{cm} :18.3
Max. Observed MH:	Max. Observed MH:
MCMM _f :13.0	MCMM _{cm} : 60.2
Variance: <u>127.7</u>	Variance: 11088.3
Indicated Distribution(s): Exponential	Normal Log Normal
REMARKS.	029,1030
**Indices previously develor	ped for ARINC Research Publication
500-02-5-1050, dated May	17/0.

Noun Name: Firesides, Main Propulsio	
General Description: 700 PSI 5651 sq. ft	
CID/APL Number(s): 021550062 *(1)	Federal Stock Number: None
Equipment Identification Code: ZA02000	Supplemental Suppl
Technical Manual: 351-0527	Control of the Contro
Manufacturer: Foster Wheeler Corp.	
Ship Population: DE 1025,1026,1027,1028	*(2) Equip. Population/Ship: 2 ea/DE Data Assessment Period: Jan 67-July 69
Utilization Factors: 1.00 (Boiler Hours)	The state of the s
Total Equip. Operating Time (hours): 54213.	
Total Number of: Failures (CMs): 0	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	
Maintenance Factors: See Appendix C	Total CM Repair Man-Hours:
Maintenance Factors: See Appendix o	THE PROPERTY OF THE PARTY OF TH
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 78004.4	Mean Time Between Corrective Maintenance MTBCM: 7744.7 90% Confidence Interval Upper Limit: 16503.2 Lower Limit: 4122.7
	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : O MCMM _f : O Max. Observed MH:	MTTR _{cm} : 7.4 MCMM _{cm} : 28.6 Max. Observed MH:
MCMM _f : 0	MCMM _{cm} : 439.4
Variance: 0	Variance: 1132947.4
*REMARKS: *(1) 021550063, *(2) 10 **Indices previously development	Normal Log Normal 29,1030 ped for ARINC Research Publication
588-02-3-1058, dated May	1970.
	2-110

eneral Description: 700 PSI 5651 sq. f= ID/APL Number(s): 021550062 *(1)	Fodoral Stock Number: None
	76 02 13 Land L
echnical Manual: 351-0527 Ianufacturer: Foster Wheeler Corp.	and the second s
lanufacturer: Foscer wheeler corp.	
Rec	sic Data
Thip Population: DE 1025, 1026, 1027, 1028	*(2) Equip. Population/Ship: 2 ea/DE
Equip. Population in Data Base: 12	Data Assessment Period: Jan 67-July 6
Jtilization Factors: 1.00 (Boiler Hours)	
Total Equip. Operating Time (hours): 54213.1	106
Total Number of: Failures (CM _f): 22	Corrective Maintenance Events (CM): 126
Total CM. Repair Man-Hours:1187.8	_ Total CM Repair Man-Hours: 6545.9
Maintenance Factors: See Appendix C	
Reliab	ility Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure	Mean Time Between Corrective Maintenance MTBCM: 430.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2464.2 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2464.2 90% Confidence Interval Upper Limit: 3638.5	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2464.2 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2464.2 90% Confidence Interval Upper Limit: 3638.5 Lower Limit: 1726.5	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2464.2 90% Confidence Interval Upper Limit: 3638.5 Lower Limit: 1726.5	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2464.2 90% Confidence Interval Upper Limit: 3638.5 Lower Limit: 1726.5 Maintain	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2464.2 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5 mability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2464.2 90% Confidence Interval Upper Limit: 3638.5 Lower Limit: 1726.5 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5 mability Indices Corrective Maintenance — (All Events) MTTRom: 11.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2464.2 90% Confidence Interval Upper Limit: 3638.5 Lower Limit: 1726.5 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.7	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.6 MCMM _{cm} : 14.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2464.2 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.6 MCMM _{cm} : 14.0 Max. Observed MH:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2464.2 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5 Mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.6 MCMM _{cm} : 14.0 Max. Observed MH: 52.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2464.2 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.6 MCMM _{cm} : 14.0 Max. Observed MH:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2464.2 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5 Mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.6 MCMM _{cm} : 14.0 Max. Observed MH: MCMM _{cm} : 52.0 Variance: 20880.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2464.2 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 430.3 90% Confidence Interval Upper Limit: 502.1 Lower Limit: 371.5 Mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.6 MCMM _{cm} : 14.0 Max. Observed MH: MCMM _{cm} : 52.0 Variance: 20880.3 Normal Log Normal

Noun Name: Casing, Main Propulsion	Steam Boiler
General Description: 700 PSI 5651 sq. ft	
CID/APL Number(s): 021550062 *(1)	Federal Stock Number: None
Zachooo	
053 0505	The state of the s
Manufacturer: Foster Wheeler Corp.	The second of th
Ba	sic Data
77 1005 1006 1007 1009	*(2)
Ship Population: <u>DE 1025,1026,1027,1028</u>	Figure 1 - Jan 67-July 69
Equip. Population in Data Base:	Data Assessment Period: Jan 67-July 69
Utilization Factors: 1.00 (Boiler Hours)	
Total Equip. Operating Time (hours): 54213	5.1
이 나는 아니는 아니는 이 사람들이 되었다면 하는 것이 없는 사람들이 되었다면 하는 것이 없는 것이 없는 것이다.	_ Corrective Maintenance Events (CM):67
Total CM _f Repair Man-Hours: 35.1	_ Total CM Repair Man-Hours: 1047.3
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 13553.3 90% Confidence Interval Upper Limit: 39716.5 Lower Limit: 5924.9	Mean Time Between Corrective Maintenance MTBCM: 809.2 90% Confidence Interval Upper Limit: 1004.2 Lower Limit: 661.4
Maintair	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 3.0	MTTR _{cm} : 3.8
MCMM _f : 3.77	MCMM _{cm} :5.03
Max. Observed MH:	Max. Observed MH:
MCMM _f : 8/8	MCMM _{cm} : 15.6
Variance:84.6	Variance: 600.3
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 021550063, *(2)	1029,1030
	loped for ARINC Research Publication
588-02-3-1058, dated Ma	y 1970.

Noun Name: Foundation Main Propul	
	ft. 372 cu. ft. Boiler
CID/APL Number(s): 021550062 *(1)	
	A SECOND SECTION AND A SECOND SECTION AS A SECOND SECTION AS A SECOND SECTION AS A SECOND SEC
Manufacturer: Foster Wheeler Corp.	
	Basic Data
Ship Population: DE 1025,1026,1027,102	28 *(2) Equip. Population/Ship: 2 ea/DE
	Data Assessment Period: Jan 67-July 69
Utilization Factors: 1.00 (Boiler Hours	
Total Equip. Operating Time (hours): 5422	
Total Number of: Failures (CM _f): 0	Corrective Maintenance Events (CM):3
Total CMs Repair Man-Hours:	Total CM Repair Man-Hours:20.5
Maintenance Factors:	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81904.6 (x ₅ ,2) 90% Confidence Interval Upper Limit: Lower Limit: 18101	MTBCM: 18071.0 90% Confidence Interval Upper Limit: 66113.5 Lower Limit: 6995.2
Main	ntainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :	MTTR _{cm} : 3.4
MCMM _f :O	MCMM _{cm} : 5.6
Max. Observed MH:	Max. Observed MH:
MCMM _f :	MCMM _{cm} : 6.8 Variance: 23.0
Variance:O	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal
	veloped for ARINC Research Publication
588-02-3-1058, dated	
	2-113

Basic Data Bas	Noun Name: Fuel Oil Burner, Main Pr	opulsion Steam BLR	
Requipment Identification Code: ZAO6000 Technical Manual: None Manufacturer: Todd Shipyard Corp. Seattle Div. Basic Data Ship Population: DE 1025,1026,1027,1028 *(1) Equip. Population/Ship: 8 ea/DE Equip. Population in Data Base: 48 Data Assessment Period: Jan 67-July 69 Utilization Factors: 0.45 (Boiler Hours) Total Equip. Operating Time (hours): 121979.0 Total Equip. Operating Time (hours): 20 Corrective Maintenance Events (CM): 55 Total CM _f Repair Man-Hours: 304.0 Total CM Repair Man-Hours: 800,3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM: 2217.8 90% Confidence Interval Upper Limit: 9168.2 Lower Limit: 4198.9 Maintainability Indices Maintainability Indices Maintainability Indices Maintainability Indices Corrective Maintenance - (Forced Shutdown Corrective Maintenance - (All Events) Maintainability Indices Corrective Maintenance - (All Events) MTTR _C : 7.3 MCMM _C : 3.2 Max. Observed MH: Max. O	General Description: Pressure Atomizing; 2	180:00 lbs 18750 BBL	(4 Per Boiler)
Requipment Identification Code: ZAO6000 Technical Manual: None Manufacturer: Todd Shipyard Corp. Seattle Div. Basic Data Ship Population: DE 1025,1026,1027,1028 *(1) Equip. Population/Ship: 8 ea/DE Equip. Population in Data Base: 48 Data Assessment Period: Jan 67-July 69 Utilization Factors: 0.45 (Boiler Hours) Total Equip. Operating Time (hours): 121979.0 Total Equip. Operating Time (hours): 20 Corrective Maintenance Events (CM): 55 Total CM _f Repair Man-Hours: 304.0 Total CM Repair Man-Hours: 800,3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM: 2217.8 90% Confidence Interval Upper Limit: 9168.2 Lower Limit: 4198.9 Maintainability Indices Maintainability Indices Maintainability Indices Maintainability Indices Corrective Maintenance - (Forced Shutdown Corrective Maintenance - (All Events) Maintainability Indices Corrective Maintenance - (All Events) MTTR _C : 7.3 MCMM _C : 3.2 Max. Observed MH: Max. O	CID/APL Number(s):300080031	Federal Stock Number: Non	e *(2)
Rechnical Manual: None	Equipment Identification Code: ZA06000		
Ship Population: DE 1025,1026,1027,1028 *(1) Equip. Population/Ship: 8 ea/DE Equip. Population in Data Base: 48 Data Assessment Period: Jan 67-July 69 Utilization Factors: 0.45 (Boiler Hours) Total Equip. Operating Time (hours): 121979.0 Total Number of: Failures (CMf): 20 Corrective Maintenance Events (CM): 55 Total CMf Repair Man-Hours: 304.0 Total CM Repair Man-Hours: 800.3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 6098.95 MTBCM: 2217.8 90% Confidence Interval Upper Limit: 9168.2 Upper Limit: 2820.0 Lower Limit: 1775.3 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 7.6 MCMf; 3.0 Maintainability Indices MAX. Observed MH: MAX. Observed MH: MCMMf: 15.2 MAX. Observed MH: MCMMf: 15.2 Variance: 2480.0 Indicated Distribution(s): Exponential Normal Log Normal REMARKS: *(1) 1029,1030, *(2) Dwg-45106 Sneets 1-3, ID-Airencased Register — STR Mech ATMG **Indices previously developed for ARINC	Technical Manual: None		
Ship Population: DE 1025,1026,1027,1028 *(1) Equip. Population/Ship: 8 ea/DE Equip. Population in Data Base: 48 Data Assessment Period: Jan 67-July 69 Utilization Factors: 0.45 (Boiler Hours) Total Equip. Operating Time (hours): 121979.0 Total Equip. Operating Time (hours): 122979.0 Total Number of: Failures (CMf): 20 Corrective Maintenance Events (CM): 55 Total CMf Repair Man-Hours: 304.0 Total CM Repair Man-Hours: 800.3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 6098.95 MTBCM: 2217.8 90% Confidence Interval Upper Limit: 9168.2 Lower Limit: 4198.9 Lower Limit: 1775.3 Maintainability Indices Corrective Maintenance – (Forced Shutdown Failure Events Only) MTTRf: 7.6 MTTRcm: 7.3 Max. Observed MH: Max. Observed MH: Max. Observed MH: MCMMf: 3.0 Max. Observed MH: Max. Observed MH: MCMMf: 15.2 Variance: 2480.0 Variance: 1339.6 Indicated Distribution (s): Exponential Normal Log Normal **Emmarks: *(1) 1029,1030, *(2) Dwg-45106 Sheets 1-3, ID-Airencased Register - STR Mech ATMG **Indices previously developed for ARINC	Manufacturer: Todd Shipyard Corp. Sea	ttle Div.	
Ship Population: DE 1025,1026,1027,1028 *(1) Equip. Population/Ship: 8 ea/DE Equip. Population in Data Base: 48 Data Assessment Period: Jan 67-July 69 Utilization Factors: 0.45 (Boiler Hours) Total Equip. Operating Time (hours): 121979.0 Total Equip. Operating Time (hours): 122979.0 Total Number of: Failures (CMf): 20 Corrective Maintenance Events (CM): 55 Total CMf Repair Man-Hours: 304.0 Total CM Repair Man-Hours: 800.3 Maintenance Factors: Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 6098.95 MTBCM: 2217.8 90% Confidence Interval Upper Limit: 9168.2 Lower Limit: 4198.9 Lower Limit: 1775.3 Maintainability Indices Corrective Maintenance – (Forced Shutdown Failure Events Only) MTTRf: 7.6 MTTRcm: 7.3 Max. Observed MH: Max. Observed MH: Max. Observed MH: MCMMf: 3.0 Max. Observed MH: Max. Observed MH: MCMMf: 15.2 Variance: 2480.0 Variance: 1339.6 Indicated Distribution (s): Exponential Normal Log Normal **Emmarks: *(1) 1029,1030, *(2) Dwg-45106 Sheets 1-3, ID-Airencased Register - STR Mech ATMG **Indices previously developed for ARINC			
Equip. Population in Data Base:	Bas	sic Data	
Equip. Population in Data Base:	Ship Population: DE 1025,1026,1027,1028	*(1) Equip. Population/Ship: _	8 ea/DE
Dulibration Factors:			
Total Equip. Operating Time (hours): 121979.0 20 Corrective Maintenance Events (CM): 55			E-Ottobered de servicio
Total Number of: Failures (CM _f): 20 Corrective Maintenance Events (CM): 55			
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 6098.95 MTBCM: 2217.8 90% Confidence Interval Upper Limit: 9168.2 Upper Limit: 1775.3 Lower Limit: 4198.9 Lower Limit: 1775.3 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 7.6 MTTRcm: 7.3 MCMMcm: 3.0 Max. Observed MH: Max. Observed MH: Max. Observed MH: Max. Observed MH: MCMMf: 15.2 Variance: 2480.0 Variance: 1339.6 Indicated Distribution(s): Exponential Normal Log Normal *REMARKS: *(1) 1029,1030, *(2) Dwg-45106 Sheets 1-3, ID-Airencased Register — STR Mech ATMG **Indices previously developed for ARINC			(CM): <u>55</u>
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 6098.95 90% Confidence Interval Upper Limit: 9168.2 Lower Limit: 4198.9 Maintainability Indices Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 7.6 Max. Observed MH: MCMMf: 3.0 Max. Observed MH: MCMMf: 15.2 Variance: 2480.0 Indicated Distribution(s): Exponential *REMARKS: *(1) 1029,1030, *(2) Dwg-45106 Sheets 1-3, ID-Airencased Register — STR Mech ATMG **Indices previously developed for ARINC			800.3
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	90% Confidence Interval Upper Limit: 9168.2	90% Confidence Interval Upper Limit:286	- 20.0 75.3
Failure Events Only) MTTR _f :	Maintains	ability Indices	
Failure Events Only) MTTR _f :	Corrective Maintenance — (Forced Shutdown	Corrective Maintenance - (All 1	Events)
MCMM _f : 3.0 Max. Observed MH: Max. Observed MH: Max. Observed MH: Max. Observed MH: MCMM _f : 15.2 Variance: 2480.0 Indicated Distribution(s): Exponential Normal Log Normal *REMARKS: *(1) 1029.1030. *(2) Dwg-45106 Sheets 1-3. ID-Airencased Register - STR Mech ATMG **Indices previously developed for ARINC			
MCMM _f : 3.0 Max. Observed MH:	MTTR _f :	MTTR _{cm} :	
Max. Observed MH: Max. Observed MH:	MCMM _f : 3.0	MCMM _{cm} : 3.2	
Variance: 2480.0 Variance: 1339.6 Indicated Distribution(s): Exponential Normal Log Normal *REMARKS: *(1) 1029.1030. *(2) Dwg-45106 Sheets 1-3. ID-Airencased Register - STR Mech ATMG **Indices previously developed for ARINC	Max. Observed MH:		
Variance: 2480.0 Variance: 1339.6 Indicated Distribution(s): Exponential Normal Log Normal *REMARKS: *(1) 1029.1030. *(2) Dwg-45106 Sheets 1-3. ID-Airencased Register - STR Mech ATMG **Indices previously developed for ARINC	MCMM _f : 15.2	MCMM _{cm} : 14.5	
*REMARKS: *(1) 1029,1030, *(2) Dwg-45106 Sheets 1-3, ID-Airencased Register - STR Mech ATMG **Indices previously developed for ARINC	Variance: 2480.0	Variance:1339.6	
Register - STR Mech ATMG **Indices previously developed for ARINC	Indicated Distribution(s): Exponential	Normal	Log Normal
Research Publication 588-02-3-1058, dated May 1070			
The state of the s	Research Publication 588-02-3-105	8, dated May 1970.	ou for animo

Noun Name: Forced Draft Blower Turbi	ne Pressure *(1
General Description: Pur Rating - 127,5 BH	P; Speed - 4650 RPM; Operating Steam
	Federal Stock Number: 254140-529-3573
Equipment Identification Code: ZA08000	
Technical Manual: 353-01.46	
Manufacturer: Hardy Tynes Mfg. Co.	
	c Data
	Equip. Population/Ship: 4 ea/DE
Equip. Population in Data Base: 16 Turbines	Data Assessment Period: Jan 67-July 69
Utilization Factors: 1.00 (1A + 1B Boiler	Hours)
Total Equip. Operating Time (hours): 37219	.2
Total Number of: Failures (CM _f): 9	Corrective Maintenance Events (CM): 47
Total CM _f Repair Man-Hours:168.6	Total CM Repair Man-Hours:563.1
Maintenance Factors:	
	Mean Time Between Corrective Maintenance
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 4135.5	MTBCM: 791.9
90% Confidence Interval	90% Confidence Interval
Upper Limit:	Upper Limit: <u>1025.3</u>
Lower Limit: 2370.6	Lower Limit: 620.8
Maintaina	bility Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 5.2 MCMMa: 8.8	MTTR _{cm} : 3.7
MCMM _f :	MCMM _{cm} :5.6
Max. Observed MH:	Max. Observed MH:
MCMM _f : 18.8	MCMM _{cm} : 12.0
Variance: 466.6	Variance: 262.4
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) -525 PSIG	ADTING Description
	oped for ARINC Research Publication
588-02-3-1058, dated May	2-115

Noun Name:Turbine,			LOTTING A MINES DINNEY
General Description:		Main Feed Booster P	
CID/APL Number(s):	057150032	Federal Stock Number:4	320-368-3092
Equipment Identification Code	: ZQ1200	00/F308300	getuolinusti insorquesi
Technical Manual:	347-1051		
Manufacturer: 16712 De	Laval Turbine	Inc.	A) The Assessment assessment
		sic Data	
Ship Population: DD 697,70	09,716,718,723	*(1) Equip. Population/Shi	p: 4 ea/DD
Equip. Population in Data Base	e:192	Data Assessment Period	od: 7/1/67 - 6/30/69
Utilization Factors: DD-S:	A = 0.50; B = 0	0.33; $C = 0.00$;	
Total Equip. Operating Time (hours):925212	2 10 10 10 10 10 10 10 10 10 10 10 10 10	1.01
Total Number of: Failures ((CM_f) : 52	_ Corrective Maintenance Ev	
Total CM _f Repair Man-Hours:	2076	_ Total CM Repair Man-Hou	rs: 6728
Maintenance Factors:	0.67		and the second second second
,			
	Reliabi	ility Indices * *	
Mean Time Between Failure (Forced Shutdown Correct	ctive Maintenance)	Mean Time Between Corre	ctive Maintenance
MTBCM _f :17792	<u>19</u> artistris	MTBCM: 1912	TOTAL CONTRACTOR
90% Confidence Interval	prophalogo and	90% Confidence Inter	
Upper Limit:	22715	Upper Limit:	2063
Lower Limit:	14122	Lower Limit:	3 7 7 7
		ability Indices	
Corrective Maintenance — (For		Corrective Maintenance —	(All Events)
Failure Events Only)			
MTTR _f :26.6		MTTR _{cm} : 9.3	The state of the s
MCMM _f :10.1		MCMM _{cm} :3.0	NORTH THE PROPERTY OF THE PROP
Max. Observed MH:	324	Max. Observed MH: _	512
MCMM _f :39.9		MCMM _{cm} : 13.9	SAFE SHIP SHIP
Variance: 4744		Variance: 1617	WELL INDRESS
Indicated Distribution(s):	Exponential	Normal	Log Normal X
*REMARKS: *(1) 725	,730,743,745.7	46,755,758,759,760,7	780,781,782,783,786
787.789.790.806.808	,818,819,820,8	26,830,832,836,837,8	339,840,851,852,864
		86,888; **Reliabilit	
		3-02-3-1153, dated I	

Equipment Identification

ondensate e Steam	Main Condensate Pump
043	Federal Stock Number: 4320-267-3160,1,4,7
ZQ1000	0/F30G300
47 & 347	-0974
	Inc.
Bas	ic Data
	*(1)Equip. Population/Ship: 4 ea/DD;
	Data Assessment Period: 7/1/67 - 6/30/69
	0.33; C = 0.00
925212	lias
	Corrective Maintenance Events (CM): 435
	Total CM Repair Man-Hours: 7045
0.67	
	MTBCM: 2127
enance)	
	90% Confidence Interval
	Upper Limit: 2306
	Lower Limit: 1965
Maintaina	bility Indices
	Compating Maintenance (All Brands)
own	Corrective Maintenance — (All Events)
	MTTR _{cm} :10.8
	MCMM _{cm} :3.0
The second	Max. Observed MH: 1334
	MCMM _{cm} : 16.2
	MCMM _{cm} :16.2
parties V	
	Variance: 6494
	ZQ1000 47 & 347 Turbine Basi ,718,723 192 50; B = 925212 66 0.67 Reliabil senance)

for ARINC Research Publication 933-02-3-1153, dated December 1971

Noun Name: Turbine,	Main Food Pump		
General Description:	Turbine Steam	Main Feed Pump	The second secon
CID/APL Number(s):	057150077	Federal Stock Number: No	one(G-7055)Dwg#
Equipment Identification Code:			
Technical Manual:	347-0086	0,1301300	
Manufacturer: 16712 DeLay	val Turbine Inc	Leaven Carrelle	
Manufacturer: 10/12 Della	di larbine inc	•	
	Basic	Data	
Ship Population: AO 52,53,5	54,55,56,57 *(1	Equip. Population/Ship	p: 2 ea/A0
Equip. Population in Data Base:	0.11	Data Assessment Perio	
Utilization Factors: AO-S: A		10; C = 0.00;	e season an inciden.
Total Equip. Operating Time (he	ours):188959		Captiments about later
Total Number of: Failures (C	M_f):6	Corrective Maintenance Eve	ents (CM): 48
Total CM _f Repair Man-Hours:	246	Total CM Repair Man-Hour	s: 726
Maintenance Factors:	2 (5		marini empetimati
(Forced Shutdown Correction MTBCMf: 31500 90% Confidence Interval Upper Limit: Lower Limit:	Simming sensors	MTBCM: 3937 90% Confidence Interv Upper Limit: Lower Limit:	val 5080
	Maintainab	ility Indices	
Corrective Maintenance — (Force	ed Shutdown	Corrective Maintenance - (All Events)
Failure Events Only)			
MTTR _f : 27.3		MTTR _{cm} :10.1	-12.5
MCMM _f : 8.5	207	MCMM _{cm} :2_3	- 207
Max. Observed MH:	201	Max. Observed MH:	207
MCMM _f : 41.0		MCMM _{cm} : 15.1	- III AND
Variance: 6594		Variance: 1511	
Indicated Distribution (s): Exp	ponential	Normal	Log Normal
*REMARKS: *(1) 58,60, ARING Research Publi	62,63,64,97; ** cation 933-02-	Reliability indices 3-1153, dated Decem	es developed for mber 1971

Noun Name:Turbine General Description:		eam Main Feed Pump
		Federal Stock Number: 4320-375-1854
		13000/F301300
Technical Manual:	347-0973	13000713013/20
Manufacturer: 16712 D	eLaval Turbin	ne Inc.
Manufacturer:		
		Basic Data
		Daoit Data
		*(1) Equip. Population/Ship: 4 ea/DD
Equip. Population in Data B	lase: 96	Data Assessment Period: 7/1/67 - 6/30/69
		B = 0.33; C = 0.00
Total Equip. Operating Time	e (hours):469	9546
Total Number of: Failure	es (CM _f):30	Corrective Maintenance Events (CM): 259
Total CM _f Repair Man-Hour	s: 543	Total CM Repair Man-Hours: 5124
Maintenance Factors:	0.6	57
(Forced Shutdown Corn	rective Maintenance)	Consid Site blown Comprises handwastel
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interva	rective Maintenance) al 21737	90% Confidence Interval Upper Limit:
(Forced Shutdown Core MTBCM _f : 15652 90% Confidence Intervi	rective Maintenance) al 21737	MTBCM: 1813 90% Confidence Interval
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interva	rective Maintenance) al 21737 11539	90% Confidence Interval Upper Limit:
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interva Upper Limit: Lower Limit:	rective Maintenance) al	MTBCM: 1813 90% Confidence Interval Upper Limit: 2014 Lower Limit: 1636 ntainability Indices
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interva Upper Limit: Lower Limit:	rective Maintenance) al	MTBCM: 1813 90% Confidence Interval Upper Limit: 2014 Lower Limit: 1636 ntainability Indices
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 13.4	rective Maintenance) al	MTBCM: 1813 90% Confidence Interval Upper Limit: 2014 Lower Limit: 1636 ntainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.2
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Intervious Upper Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: MCMM _f : 13.4 8.0	rective Maintenance) al 21737 11539 Main Forced Shutdown	MTBCM:
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 13.4 MCMM _f : 8.0 Max. Observed MH:	rective Maintenance) al	MTBCM:
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 13.4 MCMM _f : 8.0 Max. Observed MH: MCMM _f : 20.1	rective Maintenance) al 21737 11539 Main Forced Shutdown	MTBCM:
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 13.4 MCMM _f : 8.0 Max. Observed MH:	rective Maintenance) al 21737 11539 Main Forced Shutdown	MTBCM:
(Forced Shutdown Corn MTBCM _f : 15652 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 13.4 MCMM _f : 8.0 Max. Observed MH: MCMM _f : 20.1	rective Maintenance) al 21737 11539 Main Forced Shutdown	MTBCM:
MTBCM _f :	rective Maintenance) al 21737 11539 Main Forced Shutdown 90 Exponential ,787,790,806,8	MTBCM:

684	None (G-10011)(ID-HD
APO1000/310C700	
684	
urbine Inc.	
Basic Data	
,56,*(1) Equip. Population	n/Ship: 2 ea/A0
24 Data Assessment	Period: 7/1/67 - 6/30/69
00; $B = 0.70$; $C = 0.00$	
	e Events (CM):133
Total CM Renair Man-	Hours: 3508
90% Confidence I Upper Limit:	interval : 3631
Lower Limit	:2710
Maintainability Indices	
lown Corrective Maintenance	e — (All Events)
1.7	Fathers Sweets Cirlly)
cm.	
cin —	0.0 H· 501
cm ·	
Variance:26	71
Variance:	Log Normal X
	24 Data Assessment 00; B = 0.70; C = 0.00 416185 26 Corrective Maintenance Total CM Repair Man- 0.67 Reliability Indices ** Mean Time Between Cotenance) MTBCM: 3: 90% Confidence I Upper Limit Lower Limit Maintainability Indices MTTRcm: 17 MCMMcm: 10 Max. Observed Mi

	'eed Pump		STATE SHOWER FOR STATE
General Description: Turbin		ain Feed Pump	collectival talence
CID/APL Number(s): 057150	131	Federal Stock Number: No	neMIL-G-17859 or
Equipment Identification Code:	ZQ13000	/F301300	nitiesti tasat tasatandi.
Technical Manual: 347-18	72,1986	49584 (38	2140000 000000
Manufacturer: 16712 De Laval			
	Basic	Data	
		*(1)	
Ship Population: DE 1006,1014,1		1030Equip. Population/Ship	
Equip. Population in Data Base:	26	Data Assessment Period	: 7/1/67 - 6/30/69
Utilization Factors: DE-S: A=0.56	;B=0.51;C	=0.00/LSD-S:A=0.52;	B=0.25;C=0.00
Total Equip. Operating Time (hours):	118444	OTHER CONTRACTOR SERVICE	walterwich unag Charal
Total Number of: Failures (CM _f):	23	Corrective Maintenance Even	its (CM):116
Total CM _f Repair Man-Hours: 2622			
Maintenance Factors:	0.67	Total CM Repair Mait-Hours	
(Forced Shutdown Corrective Maint MTBCM _f : 5150		MTBCM: 1021	DCNpicera
90% Confidence Interval		90% Confidence Interva	1100
Upper Limit: 7532		Upper Limit:	
Lower Limit: 3634	_	Lower Limit:	015
	Maintainabi	lity Indices	
Corrective Maintenance — (Forced Shutd	own	Corrective Maintenance — (A	all Events)
Failure Events Only)			
MTTR _f : 79.5		MTTR _{cm} : 29.5	ATTIN
MCMM _f :8.0		MCMM _{cm} : 3.0	AND MOM
	0.363/4	Max. Observed MH:	1002
Max. Observed MH: 1002			1002
Max. Observed MH:1002 MCMM _f :119.2		MCMM _{cm} : 44.2	1002
Max. Observed MH: 1002		MCMM _{cm} : 44.2 Variance: 22572	1002
Max. Observed MH:1002 MCMM _f :119.2		cm .	Log Normal X
Max. Observed MH: 1002 MCMM _f : 119,2 Variance: 75243	nasunV P <u>rovi</u>	Variance: 22572 Normal	Log Normal X

Noun Name: Steam Turbine, Main Feed	Pump	
General Description: 5770/5900 RPM; Opera		PSIG
CID/APL Number(s): 057150131		
Equipment Identification Code: ZQ13000	Todoru Diocu Manibor	
Technical Manual: 347-1986		Product Residence
Manufacturer: De Laval Turbine Clnc.		
Manufacturer.		and the second section of
	c Data	
Ship Population: DE 1025, 1026, 1027, 1028 *		
Equip. Population in Data Base: 12 Turbine		
Utilization Factors: 0.47 (1A Boiler Hrs)		totale more made
Total Equip. Operating Time (hours):55839	•4	STEEL COLOR BURY
Total Number of: Failures (CM _f): 19	Corrective Maintenance Events (CM	I): <u>49</u>
Total CM _f Repair Man-Hours:1666 Maintenance Factors:		3401.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2938.9 90% Confidence Interval Upper Limit: 4485.1	Mean Time Between Corrective Ma MTBCM: 1139.6 90% Confidence Interval Upper Limit: 146	
Lower Limit: 2001.4	Lower Limit: 89	8.5
	bility Indices Corrective Maintenance — (All Ever	nte)
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 29.6 MCMM _f : 14.2	MTTR: 23.5	nus) stance ended «C.C. contract
	MCMM _{cm} : 8.2	
Max. Observed MH:	Max. Observed MH:	
$\overline{\text{MCMM}}_{\mathbf{f}}$: $\frac{87.7}{2.000}$	MCMM _{cm} : 69.4	
Variance: 51938.4	Variance: 37171.8	
Indicated Distribution(s): Exponential	Normal	Log Normal
*REMARKS: *(1) 1029,1030 **Indices previously deve		Publication
588-02-3-1058, dated Ma		
	2-123	

Noun Name: Steam Turbine Fuel Oil	Service Pump
	erating Steam Pressure 525-PSIG
	Federal Stock Number: None *(2)
Equipment Identification Code:ZTO10	00
Technical Manual: 347-1873	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Manufacturer: De Laval Turbine Clnc	SHID SOLONIA LEVEL ST. SAME PARTS
	Basic Data
Ship Population: <u>DE 1025,1026,1027</u> *	(3) Equip. Population/Ship: 2 ea/DE
Equip. Population in Data Base: 12 Turbin	es Data Assessment Period:Jan 67-July 69
	s) Plus 0.54 (1B Boiler Hrs)
Total Equip. Operating Time (hours): 5258	6.6
Total Number of: Failures (CM _f): 3	Corrective Maintenance Events (CM):23
	6 Total CM Repair Man-Hours: 386.9
Maintenance Factors:	
Reli	iability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 17528.9	Mean Time Between Corrective Maintenance MTBCM: 2286.4
90% Confidence Interval	90% Confidence Interval
Upper Limit: 64130.0	Upper Limit: 3349.5
Lower Limit: 6785.4	Lower Limit: 1613.1
Lower Linns.	
Maint	cainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :10.6	MTTR _{cm} :6.6
MCMM _f : 12.9	MCMM _{cm} :5.3
Max. Observed MH:	Max. Observed MH:
MCMM _f : 31.2	MCMM _{cm} : 16.8
Variance:686.4	Variance: 497.3
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 057150131, *(2)	(IK-HC-RC), *(3) 1028,1029,1030
	y developed for ARINC Research Publication
588-02-3-1058, da	ted May 1970.

Noun Name: Turbine, Main Co	ondensate Pump
General Description: Turbine	e Steam Main Condensate Pump
	138 Federal Stock Number: 5950-856-4476
Equipment Identification Code:	ZQ10000/F30G300
Technical Manual: 347-240	01
Manufacturer: 16712 DeLaval Tur	
	Basic Data
	45,948,*(1) Equip. Population/Ship: 2 ea/DD; DDG
Equip. Population in Data Base:	46 Data Assessment Period: 7/1/67 - 6/30/69
	B=0.11;C=0.00/DDG-S:A=0.52;B=0.27;C=0.00
Total Equip. Operating Time (hours):	221250
Total Number of: Failures (CM _f):	13 Corrective Maintenance Events (CM): 140
Total CMc Repair Man-Hours: 643	Total CM Repair Man-Hours:1763
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maint MTBCM _f : 17019	Mean Time Between Corrective Maintenance tenance) MTBCM:1580
90% Confidence Interval	
Upper Limit: 28764	Upper Limit:1827
Lower Limit: 10700	Lower Limit: 1373
	Maintainability Indices
Corrective Maintenance — (Forced Shutd	lown Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR: 33.0	MTTR _{cm} : 8.2
MCMM _f :17.5	MCMM _{cm} : 3.0
Max. Observed MH: 202	Max. Observed MH: 202
MCMM _f : 49.5	MCMM _{cm} : 12.2
Variance: 3975	Variance: 748
Indicated Distribution(s): Exponential	
*REMARKS: *(1) 951;DDG 2,5	6,7,8,9,12,14,17,18,19,20,21,24,31,32,33, eloped for ARINC Research Publication
933-02-3-1153, dated De	

eneral Description:	Turbine Steam	Generator 1000 KW	The super-su
CID/APL Number(s):	057150181	Federal Stock Number:	5115-809-9970
Equipment Identification Cod	de: AP0100	00/3100700	Contraction Toront Contraction
Technical Manual:	361-1702	The second second	The second second second
Manufacturer: 16712 De	eLaval Turbine 1	Inc.	LEETEL HARMAN
	Ba	sic Data	
Shin Population DLG 18	. 19. 20. 22. 23	Equip. Population/Sh	in: 4 ea/DLG:
Equip. Population in Data Ba		Data Assessment Peri	
Utilization Factors: DLG-	-S: A = 0.40; B	= 0.25; C = 0.00;	
Total Equip. Operating Time			Controller and Control
Total Number of: Failures	s (CM _f):3	_ Corrective Maintenance E	vents (CM):38
		_ Total CM Repair Man-Hou	
Maintenance Factors:		_ 10tal CM Repair Mail-110t	418.
	Reliab	ility Indices **	
Mean Time Between Failure (Forced Shutdown Corr		Mean Time Between Corre	ective Maintenance
			A
(Forced Shutdown Corr MTBCM _f : 27956 90% Confidence Interva	rective Maintenance)	Mean Time Between Correct MTBCM: 2207 90% Confidence Inte	rval no astrumus some
(Forced Shutdown Corr MTBCM _f : 27956 90% Confidence Interva Upper Limit:	rective Maintenance) al 102404	Mean Time Between Corres MTBCM: 2207 90% Confidence Inte Upper Limit:	rval 2947
(Forced Shutdown Corr MTBCM _f : 27956 90% Confidence Interva	rective Maintenance) al 102404	Mean Time Between Correct MTBCM: 2207 90% Confidence Inte	rval 2947
(Forced Shutdown Corr MTBCM _f : 27956 90% Confidence Interva Upper Limit:	rective Maintenance) al	Mean Time Between Corres MTBCM: 2207 90% Confidence Inte Upper Limit:	rval 2947
(Forced Shutdown Corr MTBCM _f : 27956 90% Confidence Interva Upper Limit: Lower Limit:	rective Maintenance) al 102404 10806 Maintain	Mean Time Between Correction MTBCM: 2207 90% Confidence Inte Upper Limit: Lower Limit:	rval 2947 1684
(Forced Shutdown Corr MTBCM _f : 27956 90% Confidence Interva Upper Limit:	rective Maintenance) al 102404 10806 Maintain	Mean Time Between Corrective Maintenance —	rval 2947 1684
(Forced Shutdown Corr MTBCM _f : 27956 90% Confidence Interva Upper Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTRs: 176.1	rective Maintenance) al 102404 10806 Maintain	Mean Time Between Corrective Maintenance — MTBCM: 2207 90% Confidence Inte Upper Limit: Lower Limit: ability Indices Corrective Maintenance — MTTR _{cm} : 26.4	rval 2947 1684
(Forced Shutdown Corrective Maintenance — (Forcective Maintenance — (F	rective Maintenance) al	Mean Time Between Corrective Maintenance — MTBCM: 2207 90% Confidence Inte Upper Limit: Lower Limit: ability Indices Corrective Maintenance — MTTR _{cm} : 26.4 MCMM _{cm} : 4.5	rval 2947 1684 (All Events)
(Forced Shutdown Corrective Maintenance — (Forcetive Maintenance — (For	rective Maintenance) al 102404 10806 Maintain	Mean Time Between Corrective Maintenance — MTBCM: 2207 90% Confidence Inte Upper Limit: Lower Limit: Lower Limit: Mability Indices Corrective Maintenance — MTTR _{cm} : 26.4 MCMM _{cm} : 4.5 Max. Observed MH:	rval 2947 1684 (All Events)
(Forced Shutdown Corrective Maintenance — (Forcective Maintenance — (F	rective Maintenance) al	Mean Time Between Corrective Maintenance — MTBCM: 2207 90% Confidence Inte Upper Limit: Lower Limit: ability Indices Corrective Maintenance — MTTR _{cm} : 26.4 MCMM _{cm} : 4.5 Max. Observed MH: 39.7	rval 2947 1684 (All Events)
(Forced Shutdown Corrective Maintenance — (Forcetive Maintenance — (For	rective Maintenance) al	Mean Time Between Corrective Maintenance — MTBCM: 2207 90% Confidence Inte Upper Limit: Lower Limit: Lower Limit: Mability Indices Corrective Maintenance — MTTR _{cm} : 26.4 MCMM _{cm} : 4.5 Max. Observed MH:	rval 2947 1684 (All Events)
(Forced Shutdown Corrective Maintenance — (Forcetive Maintenance — (For	rective Maintenance) al	Mean Time Between Corrective Maintenance — MTBCM: 2207 90% Confidence Inte Upper Limit: Lower Limit: ability Indices Corrective Maintenance — MTTR _{cm} : 26.4 MCMM _{cm} : 4.5 Max. Observed MH: 39.7	rval 2947 1684 (All Events)

Noun Name: _ Turbine, SSTG Set		
General Description: Turbine S	team Ge	nerator 500 KW
		Federal Stock Number: None (7027E51AE ID *
Equipment Identification Code:		
Technical Manual: 361-1437		
Manufacturer: 03497 General Elec	ctric C	o. Low Voltage Switchgear Dept.
	Basic	Deta
DROSS okt oke ok	- ali0 ac	*(2)
		Equip. Population/Ship: 4 ea/DD; DDG
		Data Assessment Period: 7/1/67 - 6/30/69
	1100730	.00/DDG-S:A=0.59; B=0.59; C=0.00
Total Equip. Operating Time (hours):		2 21/2
Total Number of: Failures (CMf):		Corrective Maintenance Events (CM):143
Total CM _f Repair Man-Hours: 368		Total CM Repair Man-Hours:1382
Maintenance Factors:	0.67	
MTBCMe: 17423		MTBCM:2802
MTBCM _f : 17423		MTBCM:2802
90% Confidence Interval		90% Confidence Interval
Upper Limit: 25484		Upper Limit: 3234
Lower Limit: 12295		Lower Limit: 2439
	Maintainab	ility Indices
Corrective Maintenance — (Forced Shutdown	nacasa	Corrective Maintenance — (All Events)
Failure Events Only)		
MTTR _f : 14.4		MTTR _{cm} : 8.5
MCMM _f : 8.0		MCMM _{cm} : 3.1
Max. Observed MH: 173		Max. Observed MH: 207
MCMM _f : 21.7		MCMM _{cm} : 12.8
Variance:1662		Variance: 971
Indicated Distribution(s): Exponential		Normal Log NormalX_
*REMARKS: (1) DRV-518-M *(2)	DDG 2.	7.8.12.17.18.19.20.21: **Reliability
indices developed for ARINC		
	vezeat.c	h Publication 933-02-3-1153, dated

Noun Name: Turbine, Main Feed	Pump
General Description: Turbine S	team Main Feed Pump
CID/APL Number(s): 057260147	Federal Stock Number: None (7027E50CC*(1)
Equipment Identification Code: Z	Q13000/F301300
Technical Manual: 347-3059	Acceptable at the second state of the second s
	ctric Co. Low Voltage-Switchgear Dept.
	Basic Data
DDC 18 10.DIC 0 1	0 11 11.
	0,11,14; Equip. Population/Ship: 6 ea/DDG;DLG
Equip. Population in Data Base: 3	6 Data Assessment Period: 7/1/67 - 6/30/69
	.20;C=0.00/DLG-S:A=0.67;B=0.56;C=0.00;
Total Equip. Operating Time (hours): $\frac{2}{8}$	50304
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):53
Total CM _f Repair Man-Hours: 35	Total CM Repair Man-Hours: 736
Maintenance Factors: 0	.67
MTBCM _f : 28795	MTBCM: 4346
MTBCMe: 28795	MTBCM: 4346
90% Confidence Interval	90% Confidence Interval
Upper Limit: <u>57793</u>	Upper Limit: 5535
Lower Limit: 15959	Lower Limit: 3457
M M	laintainability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	(Vine County on the County on
MTTR _f : 3.0	MTTR _{cm} : 9.3
MCMM _f : 3.5	MCMM _{cm} : 3.7
Max. Observed Min.	Max. Observed MH: 323
MCMM _f : 4.4	MCMM _{cm} : 13.9
Variance:	Variance: 2076
Indicated Distribution(s): Exponential	Normal Log Normal X
*REMARKS: (1) ID-DRV-125 * Research Publication 933-02-	*Reliability indices developed for ARINC

Noun Name: Turbine, SSTG Set	
General Description: Turbine Steam C	enerator 750 KW
CID/APL Number(s): 057260146	Federal Stock Number: 6115-684-2470
Equipment Identification Code: APO10	Federal Stock Number: 6115-684-2470
Technical Manual: 361-1663	
	o. Low Voltage Switchgear Dept.
Ba	sic Data
	Equip. Population/Ship: 4 ea/DLG;
Equip. Population in Data Base: 20	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG-S: A = 0.40; B =	0.25; C = 0.00;
Total Equip. Operating Time (hours): 82650	And the state of t
Total Number of: Failures (CM _f): 17	_ Corrective Maintenance Events (CM):81
	Total CM Repair Man-Hours: 903
Maintenance Factors: 0.67	Total Civi Repair Mail-110uts.
Reliab	ility Indices **
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 4862	MTBCM: 1020
90% Confidence Interval	90% Confidence Interval
Upper Limit: 7628	Upper Limit:1238
Lower Limit: 3241	Lower Limit:848
Maintain	ability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :17.2	MTTR _{cm} : 7.4
MCMM _f : 12.2	MCMM _{cm} :
Max. Observed MH: 111	Max. Observed MH:
MCMM _f : 25.7	MCMM _{cm} :11.1
Variance: 1107	Variance: 296
Indicated Distribution(s): Exponential	Normal Log NormalX
*REMARKS: **Reliability indices de 933-02-3-1153, dated December 197	veloped for ARINC Research Publication

Noun Name: Turbine, SSTG Se	<u>t</u> .
General Description: Turbine	
	60 Federal Stock Number: 6110-752-2028
Equipment Identification Code:	
Technical Manual: 361-170	7
Manufacturer: 03497 General El	ectric Co. Low Voltage Switchgear Dept.
	Basic Data
Shin Boundation DD 697 709 716	718,*(1) Equip. Population/Ship: 2 ea/DD
	92 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DD-S: A = 0.8	
Total Equip. Operating Time (hours):	
Fotal Number of: Failures (CM_f):	
	91120
Total CM _f Repair Man-Hours: 1409	Total CM Repair Man-Hours: 8439
Maintenance Factors:	0.67
90% Confidence Interval	MTBCM: 2182 90% Confidence Interval
Upper Limit: 16561	Upper Limit: 2439
Lower Limit: 10482	Lower Limit: 2028
	Maintainability Indices
Corrective Maintenance — (Forced Shutdown	wn Corrective Maintenance — (All Events)
Failure Events Only)	16.8
MTTR _f :16.8	MTTR _{cm} :
MCMM _f : 3.8	MCMM _{cm} : 5.0
Max. Observed MH: 285	Max. Observed Mri:
Variance: 25.2	MCMM _{cm} : 25.2
Variance:2649	Variance: 3376
Indicated Distribution(s): Exponential	Normal Log Normal X
*PEMARKS. *(1) 723.725.730.7	43,746,755,758,759,760,780,781,782,783,786,787,
	.830.832.836.837.839.840.851.852.864.870.871.875
	.880; **Reliability indices developed for
	933-02-3-1153, dated December 1971
	2-130

	eed Pump	Main Feed Pump
General Description: Turbin	030	Federal Stock Number: None (LN-63611)
Equipment Identification Code:	03 781700	00/F301300
Technical Manual: 347-26		and the control of th
Manufacturer: 93232 Worthingt	on Corp.	
		c Data
DD 938, 941, 94	5, 948, 9	Equip. Population/Ship: 4 ea/DD; DDG;
		Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base:	1 · B = 0	25, C=0.00/DDG-S: A=0.51; B=0.25; C=0.00
		0
Total Equip. Operating Time (hours):		Corrective Maintenance Events (CM): 49
Total CM _f Repair Man-Hours: 33		Total CM Repair Man-Hours: 294
Maintenance Factors:	0.67	
•		
	Reliabil	ity Indices **
Mean Time Between Failure		Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Main	tenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Main	tenance)	(adjust fishli Wahmid) are digits social)
(Forced Shutdown Corrective Main MTBCM _f : 19943	tenance)	MTBCM:2849
(Forced Shutdown Corrective Main MTBCM _f : 19943 90% Confidence Interval		MTBCM: 2849 90% Confidence Interval
(Forced Shutdown Corrective Main MTBCM _f : 19943 90% Confidence Interval Upper Limit: 42458		90% Confidence Interval Upper Limit: 3666
(Forced Shutdown Corrective Main MTBCM _f : 19943 90% Confidence Interval Upper Limit: 42458		MTBCM: 2849 90% Confidence Interval Upper Limit: 3666
(Forced Shutdown Corrective Main MTBCM _f : 19943 90% Confidence Interval Upper Limit: 42458	-9738788 0 ±02 0 = 0	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 19943 90% Confidence Interval Upper Limit: 42458	-9738788 0 ±02 0 = 0	90% Confidence Interval Upper Limit: 3666
(Forced Shutdown Corrective Main MTBCM _f : 19943 90% Confidence Interval Upper Limit: 42458 Lower Limit: 10611	—— Maintaina	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 19943 90% Confidence Interval Upper Limit: 42458 Lower Limit: 10611 Corrective Maintenance — (Forced Shutdown Englisher Events Only)	—— Maintaina	90% Confidence Interval Upper Limit: 3666 Lower Limit: 2245 bility Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Main MTBCM _f : 19943 90% Confidence Interval Upper Limit: 42458 Lower Limit: 10611 Corrective Maintenance — (Forced Shutdown Englisher Events Only)	—— Maintaina	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	—— Maintaina	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	—— Maintaina	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	—— Maintaina	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	—— Maintaina	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	—— Maintaina	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	Maintaina lown	MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	Maintaina lown	MTBCM:

Noun Name: Turbine, Main Feed	Pump
General Description: Turbine St	team Main Feed Pump
CID/APL Number(s): 057300044	Federal Stock Number: None (LH63820)
Equipment Identification Code:	Q13000/F301300
Technical Manual: 347-3309,2	2693
Manufacturer: Worthington Cor	rp. 93232
	Basic Data (1) 14,17,20,2 Equip. Population/Ship: 6 ea/DDG; DLG; Data Assessment Period: 7/1/67 - 6/30/69
	0.20;C=0.00/DLG_S:A=0.67;B=0.56;C=0.00;
Total Equip. Operating Time (hours): 49	3 Continue France (CM)
	Corrective Maintenance Events (CM):165
Total CM _f Repair Man-Hours: 1035	Total CM Repair Man-Hours: 4181
Maintenance Factors: 0.	.67
90% Confidence Interval Upper Limit: 64371 Lower Limit: 23947	90% Confidence Interval Upper Limit: 3428 Lower Limit: 2637
	aintainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events) MTTR: 16.9
MTTR _f : 53.1 MCMM _f : 16.0	MTTR _{cm} : 16.9 MCMM _{cm} : 6.0
Max. Observed MH: 567	Max. Observed MH: 567
MCMM _f : 79.6 Variance: 24139	MCMM _{cm} : 25.3 Variance: 4561
Indicated Distribution(s): Exponential	Normal Log Normal X
*REMARKS: (1) 24;DLG 18, 19, 2	20.22.23: **Reliability indices developed on 933-02-3-1153, dated December 1971

General Description: Turbine Steam	delierator 1900 km	Charles Impres
CID/AFL Number(s): 05/300040	Federal Stock Number: None (LJ91	1000)(ID-S5
Equipment Identification Code: APO10		rectal description
Technical Manual: 361-1777		ament Roundari
Manufacturer: 93232 Worthington Corp		yerideal/code
P	Basic Data	
Ship Population: DLG 29,30,31,33;	Equip. Population/Ship: 4 ea/	'DLG
Equip. Population in Data Base: 16		
Utilization Factors: DLG-S: A = 0.40; B	= 0.25; C = 0.00;	
Total Equip. Operating Time (hours): 73858	8	
Total Number of: Failures (CM _f): 13	Corrective Maintenance Events (CM): _	61
Total CM _f Repair Man-Hours: 527	Total CM Repair Man-Hours:	1215
Maintenance Factors: 0.67		u i turnestriali
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Mainte	enance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 5681 90% Confidence Interval	MTBCM: 1211 90% Confidence Interval	88 benot)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 5681 90% Confidence Interval Upper Limit: 9602	MTBCM: 1211 90% Confidence Interval Upper Limit: 1515	48 (senot)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 5681 90% Confidence Interval	MTBCM: 1211 90% Confidence Interval	48 (senot)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 5681 90% Confidence Interval Upper Limit: 9602 Lower Limit: 3572	MTBCM: 1211 90% Confidence Interval Upper Limit: 1515	48 (senot)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 5681 90% Confidence Interval Upper Limit: 9602 Lower Limit: 3572	MTBCM:	AR banot)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 5681 90% Confidence Interval	MTBCM: 1211 90% Confidence Interval Upper Limit: 1515 Lower Limit: 978 inability Indices Corrective Maintenance — (All Events)	AR banot)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 5681 90% Confidence Interval	MTBCM: 1211 90% Confidence Interval Upper Limit: 1515 Lower Limit: 978 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.3	AR banot)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 5681 90% Confidence Interval	MTBCM: 1211 90% Confidence Interval Upper Limit: 1515 Lower Limit: 978 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.3 MCMM _{cm} : 9.5	AR banot)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 1211 90% Confidence Interval Upper Limit: 1515 Lower Limit: 978 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.3 MCMM _{cm} : 9.5 Max. Observed MH: 113	AR banot)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 1211 90% Confidence Interval	48 banot)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 1211 90% Confidence Interval Upper Limit: 1515 Lower Limit: 978 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.3 MCMM _{cm} : 9.5 Max. Observed MH: 113	#8 banot)

Noun Name:Turbine, Main Fe	eed Booster Pump
General Description: Turbine	e STM Main Feed Booster Pump
CID/APL Number(s): 0577000	Federal Stock Number: None Dwg-E-3524
Equipment Identification Code:	ZQ12000/F308300
Technical Manual: 347-26	43, 3227, 3488
Manufacturer: 59560 Terry Stea	am Turbine Co.
	Basic Data
	*(1)
Ship Population: DD938,941,942,94	*(1) 45,948,951; *(1) Equip. Population/Ship: 2 ea/DD; DDG;
Equip. Population in Data Base:	46 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DD-S:A=0.12;	B=0.09;C=0.00/DDG-S:A=0.57;B=0.00;C=0.00;
	271344
Total Number of: Failures (CM _f):	
Total CMe Repair Man-Hours: 363	Total CM Repair Man-Hours:1221
Maintenance Factors:	0.67
Upper Limit: 21800	90% Confidence Interval Upper Limit: 3156
Lower Limit: 9732	Lower Limit: 2257
	Maintainability Indices
Corrective Maintenance — (Forced Shutde	own Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR.: 12.7	MTTR _{cm} : 8.0
MCMM _f : 8.2	MCMM _{cm} :4.0
Max. Observed MH: 140	Max. Observed MH: 140
MCMM _f :19.1	MCMM _{cm} :12.0
Variance: 1145	Variance: 467
Indicated Distribution(s): Exponential	Normal Log Normal X
*REMARKS: *(1) DDG 2,5,6,7	.8,9,12,14,17,18,19,20,21,24,31,32,33; loped for ARINC Research Publication
933-02-3-1153, dated Dece	
	2-134

01D/111 D 1141110C1(b).	Federal Stock Number: None (26J846) ID-*(1
Equipment Identification Code:	ZH04000/FB03400
Technical Manual: 347-08	884 & 347-0940
Manufacturer: 65054 Westinghou	use Electric Corp.
	Basic Data
	,723,725,*(2) Equip. Population/Ship: 2 ea/DD;
Equip. Population in Data Base:	94 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DD-S: A = 0.0	05; B = 0.50; C = 0.00
Total Equip. Operating Time (hours): _	206195
Total Number of: Failures (CM _f):	10 Corrective Maintenance Events (CM): 102
	Total CM Repair Man-Hours:1126
Maintenance Factors:	
Maintenance Factors.	
(Forced Shutdown Corrective Main	The suppression of the supersion of the suppression
MTBCM _f : 20620	MTBCM: 2022
MTBCM _f : 20620 90% Confidence Interval	MTBCM: 2022 90% Confidence Interval
MTBCM _f : 20620 90% Confidence Interval Upper Limit: 37994	MTBCM: 2022 90% Confidence Interval Upper Limit: 2398
MTBCM _f : 20620 90% Confidence Interval	MTBCM: 2022 90% Confidence Interval Upper Limit: 2398
MTBCM _f : 20620 90% Confidence Interval Upper Limit: 37994	MTBCM:
MTBCM _f : 20620 90% Confidence Interval Upper Limit: 37994	90% Confidence Interval Upper Limit: 2398 Lower Limit: 1715 Maintainability Indices
90% Confidence Interval Upper Limit: 37994 Lower Limit: 12153 Corrective Maintenance — (Forced Shute	90% Confidence Interval Upper Limit: 2398 Lower Limit: 1715 Maintainability Indices
90% Confidence Interval Upper Limit: 37994 Lower Limit: 12153 Corrective Maintenance — (Forced Shute Failure Events Only)	MTBCM: 2022 90% Confidence Interval Upper Limit: 2398 Lower Limit: 1715 Maintainability Indices tdown Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit:37994 Lower Limit:12153 Corrective Maintenance — (Forced Shute Failure Events Only) MTTRe:5.7	MTBCM: 2022 90% Confidence Interval Upper Limit: 2398 Lower Limit: 1715 Maintainability Indices tdown Corrective Maintenance — (All Events) MTTR _{cm} : 7.4
MTBCM _f :	MTBCM:
### MTBCMf:	### MTBCM:
### MTBCMf:	MTBCM:
#REMARKS: #(1) 20VRG-B*(2)	### MTBCM:

Noun Name: Turbine, SSTG Set	
General Description: Turbine S	Steam Generator 300 KW
CID/APL Number(s):057800113	3 Federal Stock Number: None MIL-T-17523 & or
Equipment Identification Code:	AP01000/301C700
Technical Manual: 361-1405	The state of the s
Manufacturer: 65054 Westinghous	se Electric Corp.
	Basic Data
Ship Population: DE 1006, 1014, 1028	8,1029,1030; Equip. Population/Ship: 2 ea/DE
Equip. Population in Data Base:	10 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DE-S: A = 0.96;	
Total Equip. Operating Time (hours):	65747
Total Number of: Failures (CM _f):	
Total CM _f Repair Man-Hours: 1140	Total CM Repair Man-Hours:1844
Maintenance Factors:	0.67
MTBCM _f :10958 90% Confidence Interval Upper Limit:25123 Lower Limit:5548	MTBCM:134 90% Confidence Interval Upper Limit:1427 Lower Limit:910
	Maintainability Indices
Corrective Maintenance — (Forced Shutdow	wn Corrective Maintenance — (All Events)
Failure Events Only)	Policie Giand Ciglis)
MTTR _f : 126.6	MTTR _{cm} : 21.2
MCMM _f : 16.5	MCMM _{cm} : 4.8
Max. Observed MH:1005	Max. Observed MH:
Man. Observed Mill.	
MCMM _f : 189.9	MCMM _{cm} : 31.8
Make Observed Mills	MCMM _{cm} : 31.8 Variance: 7705
MCMM _f : 189.9 Variance: 60454 Indicated Distribution(s): Exponential	Variance: 7705

		Circulating Pump	
General Description:		Main Circulating Pump	Daniel 2 TV Ohoc
		Federal Stock Number: None	
		/FB03400	
Technical Manual:			- Majorit is but 1
Manufacturer: 65054 W	Vestinghouse Elec	etric Corp.	Linear materials are
	Bas	sic Data	
Ship Population: DD938.9	941.942.945.948.9	*(1) 951: Equip. Population/Ship: 2	ea/DD: DLG:
		Data Assessment Period: 7	
		0.00/DDG-S:A=0.10:B=0.	
		_ Corrective Maintenance Events (CM): 10
		_ Total CM Repair Man-Hours:	
Maintenance Factors:	rs:	_ Total CM Repair Man-Hours:	
	Reliabi	lity Indices **	
Mean Time Between Failure		Mean Time Between Corrective	Maintenance
Mean Time Between Failure (Forced Shutdown Cor MTBCM _f : 21167	rrective Maintenance)	Mean Time Between Corrective MTBCM: 6350	
(Forced Shutdown Cor	rective Maintenance)	MTBCM: 6350 90% Confidence Interval	(elizere herary) 25.5 Largerys Scientifica y Rose
(Forced Shutdown Cor MTBCM _f : 21167	rrective Maintenance)	MTBCM: 6350 90% Confidence Interval Upper Limit:	- .1701
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv	rective Maintenance) val 77.536	MTBCM: 6350 90% Confidence Interval	- .1701
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit:	rective Maintenance) ral 77.536 8182	MTBCM: 6350 90% Confidence Interval Upper Limit:	- .1701
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit: Lower Limit:	rective Maintenance) ral8182 Maintain	MTBCM: 6350 90% Confidence Interval Upper Limit: Lower Limit:	- 1701 3743
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I	rective Maintenance) ral8182 Maintain	MTBCM: 6350 90% Confidence Interval Upper Limit:	- 1701 3743
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I	rective Maintenance) ral8182 Maintain	MTBCM: 6350 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (All Interval)	- 1701 3743
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I Failure Events Only) MTTR _f : 98.1	rective Maintenance) ral8182 Maintain	MTBCM: 6350 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: MTTR _{cm} : 30.7 MCMM _{cm} : 3.5	
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I Failure Events Only) MTTR _f : 98.1	rective Maintenance) ral8182 Maintain	MTBCM: 6350 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: MTTR _{cm} : 30.7 MCMM _{cm} : 3.5 Max. Observed MH: 3	- 1701 3743
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I Failure Events Only) MTTR _f : 98.1 MCMM _f : 72.0 Max. Observed MH: MCMM _f : 147.2	rective Maintenance) ral -77:536 8182 Maintain Forced Shutdown	MTBCM: 6350 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: ability Indices Corrective Maintenance — (All Interval of the second of the	
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I Failure Events Only) MTTR _f : 98.1 MCMM _f : 72.0 Max. Observed MH:	rective Maintenance) ral -77:536 8182 Maintain Forced Shutdown	MTBCM: 6350 90% Confidence Interval Upper Limit: Lower Limit: More Limit: Maintenance — (All Interval Lower Limit: MTTR _{cm} : 30.7 MCMM _{cm} : 3.5 Max. Observed MH: 3	
(Forced Shutdown Cor MTBCM _f : 21167 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (I Failure Events Only) MTTR _f : 98.1 MCMM _f : 72.0 Max. Observed MH: MCMM _f : 147.2	rective Maintenance) ral -77:536 8182 Maintain Forced Shutdown	MTBCM: 6350 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: ability Indices Corrective Maintenance — (All Interval of the second of the	
(Forced Shutdown Cormatter) MTBCM _f :	rective Maintenance) ral 77:536 8182 Maintain Forced Shutdown 360 Exponential	MTBCM: 6350 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: ability Indices Corrective Maintenance — (All Interval of the second of the	1701 3743 Events)

General Description: Turbine Steam CID/APL Number(s): 057950003	Foderal Stock Number: Name (NIII C	1221 5
Equipment Identification Code: ZHO		
Technical Manual: 347-2452		
Manufacturer: 82328 Whiton Machine		
Manufacturer:		
	Basic Data	
Ship Population: DE 1006, 1014, 1028, 10	029,1030Equip. Population/Ship: 1 ea/Di	E:
Equip. Population in Data Base:5_		
Utilization Factors: S: $A = 0.03$; $B = 1$.		
Total Equip. Operating Time (hours): 143		
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):	15
Total CM _f Repair Man-Hours: 48	Total CM Repair Man-Hours:	709
Maintenance Factors:0.6	57	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenan	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356	Mean Time Between Corrective Maintenan MTBCM: 9570	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval	Mean Time Between Corrective Maintenan MTBCM: 9570 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval Upper Limit: 265852	Mean Time Between Corrective Maintenan MTBCM: 9570 90% Confidence Interval Upper Limit: 1552	(KS)41714 (KS)41714
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval	Mean Time Between Corrective Maintenan MTBCM: 9570 90% Confidence Interval	(KS)41714 (KS)41714
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval Upper Limit: 265852 Lower Limit: 3026	Mean Time Between Corrective Maintenan MTBCM: 9570 90% Confidence Interval Upper Limit: 1552	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval Upper Limit: 265852 Lower Limit: 3026	Mean Time Between Corrective Maintenance MTBCM: 9570 90% Confidence Interval Upper Limit: 1552 Lower Limit: 621 ainability Indices	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval Upper Limit: 265852 Lower Limit: 3026 Maint	Mean Time Between Corrective Maintenant MTBCM: 9570 90% Confidence Interval Upper Limit: 1552 Lower Limit: 621 ainability Indices Corrective Maintenance — (All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval Upper Limit: 265852 Lower Limit: 3026 Maint Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenant MTBCM: 9570 90% Confidence Interval Upper Limit: 1552 Lower Limit: 621 ainability Indices Corrective Maintenance — (All Events) MTTRcm: 31.5	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval Upper Limit: 265852 Lower Limit: 3026 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 32.0 MCMM _f : 0.0	Mean Time Between Corrective Maintenant MTBCM: 9570 90% Confidence Interval Upper Limit: 1552 Lower Limit: 621 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 31.5 MCMM _{cm} : 24.0	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :14356 90% Confidence Interval Upper Limit:265852 Lower Limit:3026 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :32.0 MCMM _f :0.0 Max. Observed MH:0.0	Mean Time Between Corrective Maintenance MTBCM: 9570 90% Confidence Interval Upper Limit: 1552 Lower Limit: 621 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 31.5 MCMM _{cm} : 24.0 Max. Observed MH: 220	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :14356	Mean Time Between Corrective Maintenance MTBCM:9570 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 14356 90% Confidence Interval Upper Limit: 265852 Lower Limit: 3026 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 32.0 MCMM _f : 0.0	Mean Time Between Corrective Maintenance MTBCM: 9570 90% Confidence Interval Upper Limit: 1552 Lower Limit: 621 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 31.5 MCMM _{cm} : 24.0 Max. Observed MH: 220	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :14356	Mean Time Between Corrective Maintenance MTBCM:9570 90% Confidence Interval	(KS)41714 (KS)41714

	Turbine Steam	Main Cinquiation Du	mn
General Description:			
CID/APL Number(s):			
Equipment Identification Code			
Technical Manual:			Total Committee
Manufacturer: 82328 Whi	iton Machine Co.	Later Control with the State of	A Company of the Comp
	Roei	c Data	
Ship Population: DLG 8, 9,			2 ea/DLG:
		그 사람들은 사람들이 되었다면 하면 가장 이 경기를 가입니다면 하고 있다면 하는 것이 되었다면 하는데 되었다면 모든데 없다.	
Equip. Population in Data Bas Utilization Factors: DLG-S:			
Total Equip. Operating Time			
Total Number of: Failures	(nours): 1227	Corrective Maintenance Fue	nto (CM): 16
Total CM _f Repair Man-Hours:		Total CM Repair Man-Hours	3:
Maintenance Factors:	0.67		
Mean Time Between Failure (Forced Shutdown Corre	ctive Maintenance)	Mean Time Between Correct	
(Forced Shutdown Correct MTBCM _f : 17824 90% Confidence Interval Upper Limit:	ctive Maintenance) — 52118	MTBCM: 4456 90% Confidence Intervention Upper Limit:	al 7103
(Forced Shutdown Correct MTBCM _f : 17824 90% Confidence Interval	52118 7786	MTBCM: 4456 90% Confidence Interv	al 7103
(Forced Shutdown Correct MTBCM _f : 17824 90% Confidence Interval Upper Limit:	ctive Maintenance) 52118 7786 Maintaina	MTBCM: 4456 90% Confidence Intervention Upper Limit: Lower Limit: bility Indices	7103 2933
(Forced Shutdown Corrective Maintenance — (For Failure Events Only)	ctive Maintenance) 52118 7786 Maintaina	MTBCM: 4456 90% Confidence Intervention Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A	7103 2933
(Forced Shutdown Corrective Maintenance — (For Failure Events Only) MTBCM _f : 17824 90% Confidence Interval Upper Limit: Lower Limit:	ctive Maintenance) 52118 7786 Maintaina	MTBCM: 4456 90% Confidence Intervention Upper Limit: Lower Limit: Lower Limit: Mility Indices Corrective Maintenance — (AMTTR _{cm} : 48.4	al 7103 2933 All Events)
(Forced Shutdown Corrective Maintenance — (For Failure Events Only) MTTR _f :	ctive Maintenance) 52118 7786 Maintaina rced Shutdown	MTBCM: 4456 90% Confidence Intervel Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A MTTR _{cm} : 48.4 MCMM _{cm} : 4.0	al 7103 2933 All Events)
(Forced Shutdown Corrective Maintenance — (For Failure Events Only) MTR _f :	ctive Maintenance) 52118 7786 Maintaina	MTBCM: 4456 90% Confidence Interved Upper Limit: Lower Limit: Lower Limit: MTTR _{cm} : 48.4 MCMM _{cm} : 49.0 Max. Observed MH: Lower MTTR _{cm} : 48.4	al 7103 2933 All Events)
(Forced Shutdown Corrective Maintenance — (For Failure Events Only) MTTR _f :	ctive Maintenance) 52118 7786 Maintaina rced Shutdown	MTBCM: 4456 90% Confidence Intervel Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A MTTR _{cm} : 48.4 MCMM _{cm} : 4.0	al 7103 2933 All Events)
(Forced Shutdown Correct MTBCM _f : 17824 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (For Failure Events Only) MTTR _f : 172.8 MCMM _f : 17.8 Max. Observed MH: MCMM _f : 259.3 Variance: 44065	ctive Maintenance) 52118 7786 Maintaina rced Shutdown	MTBCM: 4456 90% Confidence Intervent Upper Limit: Lower Limit: Lower Limit: More Limit: More Maintenance — (AMTTR _{cm} : 48.4 MCMM _{cm} : 4.0 Max. Observed MH: MCMM _{cm} : 72.5	al 7103 2933 All Events)

Noun Name Turbine, Main Sea Wat	er Circulating Pump
	m Main Circulating Pump
	Federal Stock Number: None (NH-6554)(ID*(1
	4000/FB03400
	A STATE OF THE STA
	Co.
	Basic Data
	4 *(2) Equip. Population/Ship: 2 ea/DDG
Equip. Population in Data Base: 28	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DDG-S: A = 0.10;	
Total Equip. Operating Time (hours): 102	570
	Corrective Maintenance Events (CM): 28
Total CM _f Repair Man-Hours: 21	Total CM Repair Man-Hours:267
Maintenance Factors: 0.6	7
MTBCM _f : 17095 90% Confidence Interval	MTBCM: 3663 90% Confidence Interval
Upper Limit: 39194 Lower Limit: 8656	Upper Limit: <u>5152</u> Lower Limit: <u>2671</u>
Lower Limit:	nower mint.
Main	ntainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 2.3	MTTR _{cm} : 6.4
MCMM _f : 4.3	MCMM _{cm} : 2.3
Max. Observed MH:5	Max. Observed MH: 96
MCMM _f :3.5	MCMM _{cm} : 9.6
Variance: 2	Variance: 21
Indicated Distribution (s): Exponential	Normal Log Normal
*REMARKS: (1) BHSVG) *(2) 17	, 18, 19, 20, 21, 24; **Reliability
indices developed for ARINC Re December 1971	search Publication 933-02-3-1153, dated

Noun Name: Turbine, Main Sea Water	Circulating Pump
General Description: Turbine Steam Ma	ain Circulating Pump
CID/APL Number(s): 057950079	Federal Stock Number: None (NH-6743ID *(1)
Equipment Identification Code: ZH04000	/FB030400
Technical Manual: 347-3716	
Manufacturer: 82328 Whiton Machine Co.	Committee of the contract of the contract of
Basi	c Data
	*(2)
	Equip. Population/Ship: 2 ea/DLG;
Equip. Population in Data Base: 22	Data Assessment Period: 7/1/67 - 6/30/69
	0.55; $C = 0.00$;
Total Equip. Operating Time (hours): 172236	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):16
Total CM _f Repair Man-Hours: 2	Total CM Repair Man-Hours: 34
Maintenance Factors: 0.67	70,4
90% Confidence Interval Upper Limit: 3189556 Lower Limit: 36306	MTBCM:10765 90% Confidence Interval Upper Limit:17158 Lower Limit:7086
¥	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Fedura & series Oaks
MTTR _f :1.3	MTTR _{cm} :1.4
MCMM _f :0.0	MCMM:2.0
Max. Observed MH:O.O	Max. Observed MH: 8
MCMM _f :	MCMM _{cm} : 2.1
Variance:0	Variance: 4.1
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) BHSVG *(2) 30, 31, 32 for ARINC Research Publication 933	. 33: **Reliability indices developed -02-3-1153, dated December 1971

	Steam Main Circulating Pump	
CID/APL Number(s): 057950087	Federal Stock Number: NO	ne (NH-71551D-*(1)
Equipment Identification Code:		
the state of the s		
Manufacturer: 82328 Whiton Mac	hine Co.	
	Basic Data	
Ship Population: DE 1045; DEG 1,	2, 4, 5 Equip. Population/Ship:	l ea/DE;DEG
Equip. Population in Data Base:	5 Data Assessment Period	: 7/1/67 - 6/30/69
Utilization Factors: DE-S: A=0.02; B=1	00;C=0.00/DEG-S: A=0.01;B=	1.00;C=0.00
Total Equip. Operating Time (hours):	11162	
Total Number of: Failures (CMf):	O Corrective Maintenance Even	its (CM):3
Total CM _f Repair Man-Hours:0	Total CM Repair Man-Hours:	:32
Maintenance Factors:	0.67	
(Forced Shutdown Corrective Mainte	enance)	ive Maintenance
(Forced Shutdown Corrective Mainte	MTBCM: 3721. 90% Confidence Interva Upper Limit:	13629
(Forced Shutdown Corrective Mainte MTBCM _f : 16141 90% Confidence Interval Upper Limit:	MTBCM: 3721. 90% Confidence Interva Upper Limit:	13629
(Forced Shutdown Corrective Mainte MTBCM _f : 16141 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 3721 90% Confidence Interva Upper Limit: Lower Limit: Maintainability Indices	13629 1438
(Forced Shutdown Corrective Mainte MTBCM _f : 16141 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 3721 90% Confidence Interva Upper Limit: Lower Limit: Maintainability Indices	13629 1438
(Forced Shutdown Corrective Mainte MTBCM _f : 16141 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Shutdo Failure Events Only)	MTBCM: 3721. 90% Confidence Interva Upper Limit: Lower Limit: Maintainability Indices wn Corrective Maintenance — (A	13629 1438
(Forced Shutdown Corrective Mainte MTBCM _f :	MTBCM: 3721 90% Confidence Interva Upper Limit: Lower Limit: Maintainability Indices wn Corrective Maintenance — (A MTTR _{cm} : 7.0 MCMM _{cm} : 0.5	13629 1438
(Forced Shutdown Corrective Mainte MTBCM _f :	MTBCM:3721	13629 1438 All Events)
(Forced Shutdown Corrective Mainte MTBCM _f : 16141 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	MTBCM:3721	13629 1438 All Events)
(Forced Shutdown Corrective Mainte MTBCM _f :	MTBCM: 3721 90% Confidence Interva Upper Limit: Lower Limit: Maintainability Indices wn Corrective Maintenance — (A MTTR _{cm} : 7.0 MCMM _{cm} : 0.5	13629 1438 All Events)
(Forced Shutdown Corrective Mainte MTBCM _f :	MTBCM: 3721 90% Confidence Interva Upper Limit: Lower Limit: Maintainability Indices wn Corrective Maintenance — (A MTTR _{cm} : 7.0 MCMM _{cm} : 0.5 Max. Observed MH: MCMM _{cm} : 10.6 Variance: 313	13629 1438 All Events)
(Forced Shutdown Corrective Mainte MTBCM _f :	MTBCM: 3721 90% Confidence Interva Upper Limit: Lower Limit: Maintainability Indices wn Corrective Maintenance — (A MTTR _{cm} : 7.0 MCMM _{cm} : 0.5 Max. Observed MH: MCMM _{cm} : 10.6 Variance: 313	13629 1438 All Events)

Blowing
360.0 CFM 200 PSI CL
Federal Stock Number: R-3266 Dwg
s, Inc., Dresser Measurement Division
sic Data
7 Equip. Population/Ship: 5 ea/LPD
5 Data Assessment Period: 7/1/67 - 6/30
005, C = 0.0
1
Corrective Maintenance Events (CM):3
Total CM Repair Man-Hours:39
,67
мтвсм:2833
90% Confidence Interval
90% Confidence Interval Upper Limit: 10396
90% Confidence Interval
90% Confidence Interval Upper Limit: 10396
90% Confidence Interval Upper Limit:10396 Lower Limit:1096
90% Confidence Interval Upper Limit:10396 Lower Limit:1096 mability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit:10396 Lower Limit:1096 mability Indices Corrective Maintenance — (All Events) MTTRcm:8.7
90% Confidence Interval Upper Limit:10396 Lower Limit:1096 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} :8.7 MCMM _{cm} :9.5
90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit:10396 Lower Limit:1096 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.7 MCMM _{cm} : 9.5 Max. Observed MH: 20 MCMM _{cm} : 13.0 Variance: 37

Noun Name:Compressor, Air, Ballas	t Blowing
General Description: Compressor Air LP 22	00.0 CFM PSI CL
CID/APL Number(s): 061130002	Federal Stock Number: 2R595
Equipment Identification Code: AC 43	Selfer one Trespectate to Commence
Technical Manual: 349-0633	
Manufacturer: 51729 Dresser Indust	ries, Inc., Dresser Measurement Div.
Ba Ba	asic Data
GGBN 608 600 608 62	2 625 1 as (CCDN
Ship Population: SSBN 608, 609, 628, 63	
Equip. Population in Data Base: 5	Data Assessment Period: 7/1/67 - 6/30/69
011	0.005, C = 0.005
Total Equip. Operating Time (hours): 211	
Total Number of: Failures (CM _f):3	Corrective Maintenance Events (CM):3
Total CM _f Repair Man-Hours: 42	Total CM Repair Man-Hours:42
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	(100 mass 3/Liverpary 2) awaluerite name (1)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 70 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 70 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 70	Mean Time Between Corrective Maintenance MTBCM: 70
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 70 90% Confidence Interval Upper Limit: 258	Mean Time Between Corrective Maintenance MTBCM: 70 90% Confidence Interval Upper Limit: 258
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 70 90% Confidence Interval Upper Limit: 258 Lower Limit: 27	Mean Time Between Corrective Maintenance MTBCM: 70 90% Confidence Interval Upper Limit: 258
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 70 90% Confidence Interval Upper Limit: 258 Lower Limit: 27 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 70 90% Confidence Interval Upper Limit: 258 Lower Limit: 27 nability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

Noun Name: Compressor, Air, Ballast	Blowing
General Description: Compressor Air LP 22	40.0 CFM 13 PSI CL
CID/APL Number(s): _061130012	Federal Stock Number: 2R726
Equipment Identification Code: AC 43	
Technical Manual: 0949-0007-3010	
Manufacturer: 51729 Dresser Industries	Inc., Dresser Measurement Div.
Ba	sic Data
Ship Population: SSBN 631, 632, 640, 64	1*(1) Equip. Population/Ship: 1 ea/SSBN
	Data Assessment Period: 7/1/67 - 6/30/69
	0.005. C = 0.005
Total Equip. Operating Time (hours): 535	
	_ Corrective Maintenance Events (CM):1
Total CM _f Repair Man-Hours:5 Maintenance Factors:0.67	Total CM Repair Man-Hours:
90% Confidence Interval Upper Limit: 10429 Lower Limit: 113	MTBCM:535 90% Confidence Interval Upper Limit:10429 Lower Limit:113
	ability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	S 2
MTTR _f : 3.3	MTTR _{cm} : 3.3
MCMM _f :O	MCMM _{cm} :O
MCMM _f : 5.0	
Variance:	Wariance:
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 642, 643, 644, 645,	654, 655, 656, 657, 658, 659

Noun Name: Compressor, LP and IP Ai	1.0156
General Description: Compressor Air LP	
	Federal Stock Number:ID-WRB 1008
	01. 1
	ver Co.
fanufacturer:	State of the second sec
В	asic Data
A772 A	0 /479
	Equip. Population/Ship: 2 ea/AFS
	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours): 22456	Corrective Maintenance Events (CM):26
Total CM _f Repair Man-Hours: 189	Total CM Repair Man-Hours:381
Maintenance Factors:0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	bility Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2807 90% Confidence Interval Upper Limit: 5641	Mean Time Between Corrective Maintenance MTBCM: 863 90% Confidence Interval Upper Limit: 1233
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556	Mean Time Between Corrective Maintenance MTBCM: 863 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556 Maintai	Mean Time Between Corrective Maintenance MTBCM: 863 90% Confidence Interval Upper Limit: 1233 Lower Limit: 622
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556 Maintai	Mean Time Between Corrective Maintenance MTBCM: 863 90% Confidence Interval Upper Limit: 1233 Lower Limit: 622 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 863 90% Confidence Interval Upper Limit: 1233 Lower Limit: 622 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 15.7 MCMM _f : 12.5	Mean Time Between Corrective Maintenance MTBCM: 863 90% Confidence Interval Upper Limit: 1233 Lower Limit: 622 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.8 MCMM _{cm} : 4.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\mathbf{f}}$: 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\mathbf{f}}$: 15.7 MCMM $_{\mathbf{f}}$: 12.5 Max. Observed MH: 82	Mean Time Between Corrective Maintenance MTBCM: 863 90% Confidence Interval Upper Limit: 1233 Lower Limit: 622 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.8 MCMM _{cm} : 4.6 Max. Observed MH: 82
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 15.7 MCMM _f : 12.5 Max. Observed MH: 82 MCMM _f : 23.6	Mean Time Between Corrective Maintenance MTBCM:863
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\mathbf{f}}$: 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\mathbf{f}}$: 15.7 MCMM $_{\mathbf{f}}$: 12.5 Max. Observed MH: 82	Mean Time Between Corrective Maintenance MTBCM: 863 90% Confidence Interval Upper Limit: 1233 Lower Limit: 622 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.8 MCMM _{cm} : 4.6 Max. Observed MH: 82
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2807 90% Confidence Interval Upper Limit: 5641 Lower Limit: 1556 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 15.7 MCMM _f : 12.5 Max. Observed MH: 82 MCMM _f : 23.6	Mean Time Between Corrective Maintenance MTBCM:863

Noun Name:Compressor LP & IP Air I	Reipg
General Description: Compressor Air LP 10	0.0 CFM 600 PSI CL T
CID/APL Number(s): 061430051	Federal Stock Number: N-532
Equipment Identification Code: ACOL	The Thirt again Contribution of Common and
Technical Manual: 349-0151	Colored Upper Upper Colored Co
Manufacturer: 30760 Ingersol-Rand	Co.
	sic Data
	Equip. Population/Ship: 2 ea/ATF
Utilization Factors: S: A = 0.01, B = 0.0	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours): 1755 Total Number of: Failures (CM _f): 34	
	_ concent interest and the control (circle).
	Total CM Repair Man-Hours: 491
Maintenance Factors: 0.67	and the second s
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 30 90% Confidence Interval Upper Limit: 38 Lower Limit: 24
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
MTTR _f : 5.2	MTTR _{cm} :5.6
$MCMM_f$: 4.3	MCMM _{cm} :4.0
Max. Observed MH:38	Max. Observed MH:38
MCMM _f :	MCMM _{cm} : 8.5
Variance: 94	Variance: 101
Indicated Distribution(s): Exponential	Normal Log Normal _X
*REMARKS: *(1) 105, 107	PMG 176965

Noun Name: Compressor LP & IP Air Rc	ing
	.O CFM 100 PSI CL R
CID/APL Number(s): 061430060	
Technical Manual: 349-360	
	Market Commence Commence
Wandlacturer: 10700 Hige Bor - Harid OV.	
Bas	ic Data
Ship Population: AØ 107, 108, 109	Equip. Population/Ship: 2 ea/AØ
Four Population in Data Rase.	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.30, B = 0.30	0, C = 0.30
Total Equip. Operating Time (hours): 31579	
Total Number of: Failures (CM _f): 14	Corrective Maintenance Events (CM):32
Total CM _f Repair Man-Hours: 344	Total CM Repair Man-Hours:542
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2255	Mean Time Between Corrective Maintenance MTBCM: 986
90% Confidence Interval	90% Confidence Interval
Upper Limit: 3731	Upper Limit:1356
Lower Limit: 1443	Lower Limit:735
Maintaine Corrective Maintenance — (Forced Shutdown	ability Indices Corrective Maintenance — (All Events)
Failure Events Only)	11 2
MTTR _f : 16.4	MTTR _{cm} : 11.3
MCMM _f : 4.0	MCMM _{cm} : 4.0 Max. Observed MH: 261
Max. Observed MH: 261	
MCMM _f : 24.6 Variance: 4652	WCMM _{cm} : 17.0 Variance: 2179
Indicated Distribution (s): Exponential	Normal Log Normal
*REMARKS:	

General Description: Compressor Air HIP CID/APL Number(s): 061430135	
Equipment Identification Code: AB18	6.53 documentarios como
Technical Manual: 349-0707	0707-700-0040 -lampe true
Manufacturer: 30760 Ingersol-Rand Co.	AD ESSESSION PROPERTY OF THE PROPERTY OF
Ва	sic Data
Ship Population: AFS 1, 2, 3	Equip. Population/Ship: 2 ea/AFS
Equip. Population in Data Base: 6	
Utilization Factors: S: A = 0.10, B = 0.10	C = 0.10
Total Equip. Operating Time (hours): 1052	.6
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):8
	_ Total CM Repair Man-Hours:100
Maintenance Factors:	0.67
Reliab	ility Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(D. 1 Cl. 11 Comestine Maintenance)	
(Forced Shutdown Corrective Maintenance)	
10506 **	MTBCM:1315**
MTBCM _f : 10526 **	MTBCM: 1315** 90% Confidence Interval
MTBCM _f : 10526 **	90% Confidence Interval Upper Limit: 729
MTBCM _f : 10526 **	90% Confidence Interval
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219	90% Confidence Interval Upper Limit: 729
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219 Maintain	90% Confidence Interval Upper Limit: 729 Lower Limit: 2644
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219	90% Confidence Interval Upper Limit: 729 Lower Limit: 2644 nability Indices
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit: 729 Lower Limit: 2644 nability Indices Corrective Maintenance — (All Events)
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219 Maintain Corrective Maintenance — (Forced Shutdown	90% Confidence Interval Upper Limit: 729 Lower Limit: 2644 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 2.6
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.4	90% Confidence Interval Upper Limit: 729 Lower Limit: 2644 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 2.6 Max. Observed MH: 83
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.4 MCMM _f : 0.0	90% Confidence Interval Upper Limit: 729 Lower Limit: 2644 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 2.6 Max. Observed MH: 83 MCMM _{cm} : 12.5
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.4 MCMM _f : 0.0 Max. Observed MH: 0	90% Confidence Interval Upper Limit: 729 Lower Limit: 2644 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 2.6 Max. Observed MH: 83
MTBCM _f : 10526 ** 90% Confidence Interval Upper Limit: 205185 Lower Limit: 2219 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.4 MCMM _f : 0.0 Max. Observed MH: 0 MCMM _f : 2.1	90% Confidence Interval Upper Limit: 729 Lower Limit: 2644 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 2.6 Max. Observed MH: 83 MCMM _{cm} : 12.5

General Description: Compressor Air HIP	13.5 CFH 4500 PSI CL AA
	Federal Stock Number: 1832185H1T3
Equipment Identification Code: AB18	
Fechnical Manual: 0949-007-7010	77.77
Manufacturer: 30760 Ingersol-Rand	Co.
a i	Basic Data
Ship Population: SSBN 628, 629, 630, 63	31,*(1) Equip Population/Ship: 3 ea/SSBN
Equip. Population in Data Base: 21	Data Assessment Period: 7/1/67 - 6/30/69
	10, C = 0.10
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM):227
	Total CM Repair Man-Hours:5153
Maintenance Factors: 0.67	lotal CM Repair Man-Hours:
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165	Mean Time Between Corrective Maintenance MTBCM: 82
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval Upper Limit: 194	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval Upper Limit: 92
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval Upper Limit: 194	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval Upper Limit: 194 Lower Limit: 141	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval Upper Limit: 92
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval Upper Limit: 194 Lower Limit: 141	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval Upper Limit: 92 Lower Limit: 74
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval Upper Limit: 92 Lower Limit: 74
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval Upper Limit: 194 Lower Limit: 141 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 9.8	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval Upper Limit: 92 Lower Limit: 74
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval Upper Limit: 194 Lower Limit: 141 Maintai Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval Upper Limit: 92 Lower Limit: 74 Lower Limit: 74 MTTR _{cm} : 15.1 MCMM _{cm} : 5.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval Upper Limit: 194 Lower Limit: 141 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 9.8 MCMM _f : 4.0 Max. Observed MH: 200	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval Upper Limit: 92 Lower Limit: 74 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.1 MCMM _{cm} : 5.0 Max. Observed MH: 280
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval Upper Limit: 194 Lower Limit: 141 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 9.8 MCMM _f : 4.0 Max. Observed MH: 200	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval Upper Limit: 92 Lower Limit: 74 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.1 MCMM _{cm} : 5.0 Max. Observed MH: 280
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 82 90% Confidence Interval

General Description: Compressor Air HIP	13.5 CFM 4500 PSI CL AA
CID/APL Number(s): 061430150	
Equipment Identification Code: AB18	
Technical Manual: 349-0629	2010/04/0
Manufacturer: 30260 Ingersol-Rand	Co. Person are marked to a second
al Bo	sic Data
Ship Population: SSN 594, 604, 605, 606	Equip. Population/Ship: 2 ea/SSN
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67 - 6/30/
Utilization Factors: S: A = 0.03, B = 0.	10, $C = 0.10$
Total Equip. Operating Time (hours): 1040	
	Corrective Maintenance Events (CM):53
	Total CM Repair Man-Hours:1040
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	(Francis Shoutows Consume Municipates)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval Upper Limit: 446	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval Upper Limit: 446 Lower Limit: 242	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval Upper Limit: 446 Lower Limit: 242	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156 Lower Limit: 250
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval Upper Limit: 446 Lower Limit: 242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156 Lower Limit: 250 nability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval Upper Limit: 446 Lower Limit: 242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.3	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156 Lower Limit: 250 nability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval Upper Limit: 446 Lower Limit: 242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.3 MCMM _f : 2.1	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156 Lower Limit: 250 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.1 MCMM _{cm} : 4.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval Upper Limit: 446 Lower Limit: 242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.3 MCMM _f : 2.1 Max. Observed MH: 45	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156 Lower Limit: 250 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.1 MCMM _{cm} : 4.0 Max. Observed MH: 395
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 325 90% Confidence Interval Upper Limit: 446 Lower Limit: 242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.3 MCMM _f : 2.1	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156 Lower Limit: 250 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.1 MCMM _{cm} : 4.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 325 90% Confidence Interval Upper Limit: 446 Lower Limit: 242 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 4.3 MCMMf: 2.1 Max. Observed MH: 45 MCMMf: 6.4	Mean Time Between Corrective Maintenance MTBCM: 196 90% Confidence Interval Upper Limit: 156 Lower Limit: 250 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.1 MCMM _{cm} : 4.0 Max. Observed MH: 395 MCMM _{cm} : 19.6

loun Name: _ Compressor LP & IP Air Ro	cipg
eneral Description: Compressor Air LP 11.	O CFM 600 PSI CL T
ID/APL Number(s): 061900065	Federal Stock Number: HL 6093
quipment Identification Code: AC Ol	
echnical Manual: 349-0175	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
lanufacturer: 93232 Worthington Corp	
Bas	ic Data
hip Population: DDG 2, 5, 6, 7, 8, 9*(1	Equip. Population/Ship: 1 ea/DDG
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: $A = 0.01$, $B = 0.01$	1, C = 0.01
otal Equip. Operating Time (hours): 9044	
otal Number of: Failures (CM _f): 23	Corrective Maintenance Events (CM): 40
otal CMe Repair Man-Hours: 367	Total CM Repair Man-Hours:586
Naintenance Factors:0.67	
90% Confidence Interval Upper Limit: 575 Lower Limit: 278	MTBCM:26 90% Confidence Interval Upper Limit:300 Lower Limit:174
Lower Limit:	Lower Limit:
Maintains	ability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Constitution (in Trains)
TTR _f : 10.6	MTTR _{cm} : 9.8
ICMM ₆ : 5.5	MCMM _{cm} : 4.4
Max. Observed MH: 101	Max. Observed MH: 101
	Max. Observed Mill.
ICMM _f : _/ 16	MCMM _{cm} : 14.7
Variance: 739	MCMM _{cm} : 14.7 Variance: 545
Variance: 739	WCMM _{cm} : 14.7 Variance: 545
Variance: 739 Indicated Distribution (s): Exponential	MCMM _{cm} :
Variance: 739 Indicated Distribution (s): Exponential *REMARKS: *(1) 11, 12, 13, 14, 16,	MCMM _{cm} : 14.7 Variance: 545 Normal Log Normal
Variance: 739 Indicated Distribution(s): Exponential	MCMM _{cm} :

r Rcipg
50.0 CFM 100 PSI CL R
Federal Stock Number: HL 5185
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The second secon
THE RESERVE OF THE PROPERTY OF
Basic Data
$8*(1)$ Equip. Population/Ship: $\frac{2 \text{ ea/DD}}{1000}$, DE, LS
Data Assessment Period: 7/1/67 - 6/30/6
C=0.40; DE & LST/S: A=0.30, B=0.30, C=0.3
04
Corrective Maintenance Events (CM): 181
Total CM Repair Man-Hours:3916
lotal CM Repair Man-Hours:
MTBCM: 1550
90% Confidence Interval
Upper Limit:1760
Upper Limit:1760 Lower Limit:1371
Lower Limit: 1371
Lower Limit: 1371 ainability Indices Corrective Maintenance — (All Events)
Lower Limit: 1371 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4
Lower Limit: 1371 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 5.5
Lower Limit: 1371 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 5.5 Max. Observed MH: 542
Lower Limit: 1371 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 5.5 Max. Observed MH: 542 MCMM _{cm} : 21.6
Lower Limit: 1371 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 5.5 Max. Observed MH: 542
Lower Limit: 1371 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 5.5 Max. Observed MH: 542 MCMM _{cm} : 21.6
Lower Limit: 1371 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 5.5 Max. Observed MH: 542 MCMM _{cm} : 21.6 Variance: 4138
1 8

General Description: Compressor Air LP CID/APL Number(s): 061900099		84
Equipment Identification Code: ACO1	1908 when markety	
Fechnical Manual: None	180 to a 42	estanti la
Manufacturer: 93232 Worthing Corp.	- 10 YOU - 150 - 1 - 1 - 1 - 1 - 1 - 1 - 1	100000000000000000000000000000000000000
	Basic Data	
Ship Population: ATF-96, 98, 101, 103,	*(1) Equip. Population/Ship:	ea/ATF
Equip. Population in Data Base:		
Utilization Factors: S: $A = 0.13$, $B = 0.4$	12, C = 0.42	
Total Equip. Operating Time (hours):643	389	<u> </u>
Total Number of: Failures (CM _f): 14	Corrective Maintenance Events (CM):38
Total CM _f Repair Man-Hours: 299 Maintenance Factors: 0.67	Total CM Repair Man-Hours:	475
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Mai MTBCM: 1694	ntenance
Mean Time Between Failure	Mean Time Between Corrective Mai	Western Ge
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4599 90% Confidence Interval Upper Limit: 7608 Lower Limit: 2942	Mean Time Between Corrective Mai MTBCM: 1694 90% Confidence Interval Upper Limit: 2263	Western Ge
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4599 90% Confidence Interval Upper Limit: 7608 Lower Limit: 2942 Mainta	Mean Time Between Corrective Mai MTBCM: 1694 90% Confidence Interval Upper Limit: 2263 Lower Limit: 1293	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4599 90% Confidence Interval Upper Limit: 7608 Lower Limit: 2942 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Mai MTBCM: 1694 90% Confidence Interval Upper Limit: 2263 Lower Limit: 1293 Ainability Indices Corrective Maintenance — (All Even	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4599 90% Confidence Interval Upper Limit: 7608 Lower Limit: 2942 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.3	Mean Time Between Corrective Mai MTBCM: 1694 90% Confidence Interval Upper Limit: 2263 Lower Limit: 1293 Ainability Indices Corrective Maintenance — (All Even	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4599 90% Confidence Interval Upper Limit: 7608 Lower Limit: 2942 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.3	Mean Time Between Corrective Mai MTBCM: 1694 90% Confidence Interval Upper Limit: 2263 Lower Limit: 1293 Ainability Indices Corrective Maintenance — (All Even	its)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4599 90% Confidence Interval Upper Limit: 7608 Lower Limit: 2942 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.3 MCMM _f : 6.2 Max. Observed MH: 100.0	Mean Time Between Corrective Main MTBCM: 1694 90% Confidence Interval Upper Limit: 2263 Lower Limit: 1293 Ainability Indices Corrective Maintenance — (All Even MTTR _{cm} : 8.3 MCMM _{cm} : 3.3 Max. Observed MH: 10 MCMM _{cm} : 12.5	its)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4599 90% Confidence Interval Upper Limit: 7608 Lower Limit: 2942 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.3 MCMM _f : 6.2	Mean Time Between Corrective Mai MTBCM:	its)

Equipment Identification

CID/APL Number(s): 061900145	Federal Stock Number: 157443
Equipment Identification Code: AB18	SSSS con SodSSSSS - Server server messes on
Technical Manual: 349-0474	and the said works of the decide temperate
Manufacturer: 93232 Worthington Co	rp
	Basic Data
Ship Population: AØ 105; CVA 61, 6	2;*(1) Equip. Population/Ship: 4 ea/CVA **(2)
Equip. Population in Data Base:	7 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AØ/S: A=0.02, B=0	.05, C=0.0; CVA/S: A=0.05, B=0.005, C=0.005
Total Equip. Operating Time (hours):	16906
Total Number of: Failures (CM _f): 78	Corrective Maintenance Events (CM):165
Total CM _f Repair Man-Hours:542	Total CM Repair Man-Hours: 2596
Maintenance Factors:0.67	and the second s
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Reliability Indices Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure	Mean Time Between Corrective Maintenance ce) MTBCM: 102 90% Confidence Interval Upper Limit: 117
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 216 90% Confidence Interval Upper Limit: 264 Lower Limit: 180	Mean Time Between Corrective Maintenance ce) MTBCM: 102 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 216 90% Confidence Interval Upper Limit: 264 Lower Limit: 180	Mean Time Between Corrective Maintenance ce) MTBCM: 102 90% Confidence Interval Upper Limit: 117 Lower Limit: 90
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 216 90% Confidence Interval Upper Limit: 264 Lower Limit: 180 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance ce) MTBCM: 102 90% Confidence Interval Upper Limit: 117 Lower Limit: 90 aintainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :216 90% Confidence Interval Upper Limit:264 Lower Limit:180 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :4.6	Mean Time Between Corrective Maintenance ce) MTBCM: 102 90% Confidence Interval Upper Limit: 117 Lower Limit: 90 aintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM: 102 90% Confidence Interval Upper Limit: 117 Lower Limit: 90 aintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.5 MCMM _{cm} : 3.5 Max. Observed MH: 873
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :216 90% Confidence Interval	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM: 102 90% Confidence Interval Upper Limit: 117 Lower Limit: 90 aintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.5 MCMM _{cm} : 3.5 Max. Observed MH: 873

2-155

Noun Name: Compressor LP & IP Air F	Reipg
General Description: Compressor Air LP 1	LOO.O CFM 100 PSI CL R
CID/APL Number(s): 061900150	Federal Stock Number: 2H4310-355-4949
	and 0493
	orp.
Manufacturer:	
В	asic Data
Shin Banulation A0 97 105 106 107	109 Equip. Population/Ship: lea/AØ except**(1)
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.02, B = 0.	
Total Equip. Operating Time (hours): 2538	
Total Number of: Failures (CM _f): 6	
	Coffeeave manifematice 2venus (CM)
	Total CM Repair Man-Hours:535
Maintenance Factors:	57
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 218 Lower Limit: 95
Lower Limit:	Lower Limit99
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
MTTR _f :8.4	MTTR _{cm} : 19.8
MCMM _f : 10.5	MCMM _{cm} : 13.0
Max. Observed MH: _36.0	Max. Observed MH: 240
MCMM _f :12.6	MCMM _{cm} : 29.7
Variance: 166	Variance: 3152
Indicated Distribution (s): Exponential	Normal Log Normal
maloute Distribution (*).	
*REMARKS: *(1) 2 ea/AØ 107	

Noun Name: Compressor LP & IP A	
	100.0 CFM 100 PSI CL R
	Federal Stock Number: HL-10905
	Corp.
Mandaether	corp.
	Basic Data
Ship Population: LSD 28, 29, 30, 31,	32, *(1) Equip. Population/Ship: 2 ea/LSD
Equip. Population in Data Base:16	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.40, B = 0	0.45, C = 0.45
Total Equip. Operating Time (hours): 12196	54
	Corrective Maintenance Events (CM): 65
Total CMc Repair Man-Hours: 579	Total CM Repair Man-Hours: 2222
Maintenance Factors: 0.67	rows on stepus main stours.
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval	Mean Time Between Corrective Maintenance) MTBCM: 1876
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval Upper Limit: 9202	Mean Time Between Corrective Maintenance MTBCM: 1876 90% Confidence Interval Upper Limit: 2331
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1876 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval Upper Limit: 9202 Lower Limit: 4197	Mean Time Between Corrective Maintenance MTBCM: 1876 90% Confidence Interval Upper Limit: 2331
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval Upper Limit: 9202 Lower Limit: 4197	Mean Time Between Corrective Maintenance MTBCM: 1876 90% Confidence Interval Upper Limit: 2331 Lower Limit: 1526 ntainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval Upper Limit: 9202 Lower Limit: 4197 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 1876 90% Confidence Interval Upper Limit: 2331 Lower Limit: 1526 ntainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval Upper Limit: 9202 Lower Limit: 4197 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.3	Mean Time Between Corrective Maintenance MTBCM: 1876 90% Confidence Interval Upper Limit: 2331 Lower Limit: 1526 ntainability Indices Corrective Maintenance — (All Events) MTTRom: 22.8
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval Upper Limit: 9202 Lower Limit: 4197 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.3 MCMM _f : 3.5	Mean Time Between Corrective Maintenance MTBCM:1876 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval Upper Limit: 9202 Lower Limit: 4197 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.3 MCMM _f : 3.5 Max. Observed MH: 220	Mean Time Between Corrective Maintenance MTBCM:1876 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6098 90% Confidence Interval Upper Limit: 9202 Lower Limit: 4197 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.3 MCMM _f : 3.5	Mean Time Between Corrective Maintenance MTBCM:1876 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: _Compressor, LP & IP Air	Rcipg., DSL Air Starting
General Description: Compressor, Air LP	
	Federal Stock Number: VD2N
Equipment Identification Code: 349-0464	
Technical Manual: 93232 Worthington C	orp.
Manufacturer:	
Ba	sic Data
Ship Population: LST 1157, 1159, 1161.*	(1) Fauin Population/Ship: 2 ea/IST
Equip. Population in Data Base: 18	(1) Equip. Population/Ship: 2 ea/IST Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.01, B = 0.0	
Total Equip. Operating Time (hours): 3158	
	Corrective Maintenance Events (CM): 88
Total CM _f Repair Man-Hours: 887	Total CM Repair Man-Hours: 1932
Maintenance Factors:0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 70 90% Confidence Interval Upper Limit: 91 Lower Limit: 55	90% Confidence Interval Upper Limit: 43 Lower Limit: 30
	ability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	and the same and the
MTTR _f :13.1	MTTR _{cm} :14.6
MCMM _f :2.0	MCMM _{cm} :
Max. Observed MH: 433	Max. Observed MH: 440
MCMM _f :19.7	MCMM _{cm} : 22.0
Variance: 4612	Variance: 4799
Indicated Distribution (s): Exponential	•••
	Normal Log NormalX
*REMARKS: *(1) 1162, 1163, 1166, 1	

Noun Name: Compressor LP & IP Air Rci	pg., DSL Air Starting
General Description: Compressor, Air LP 11	.4 CFM 600 PSI CL T
CID/APL Number(s):061900159	Federal Stock Number: No-HL-13280 Dwg.
Equipment Identification Code:ACOl	
Technical Manual: 349-0504	
Manufacturer: 93232 Worthington Cor	0.
	c Data
	*(1) Equip. Population/Ship: 2 ea/MSC
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: $A = 0.01$, $B = 0$.	
Total Equip. Operating Time (hours): 2456	
Total Number of: Failures (CM _f): 36	Corrective Maintenance Events (CM): 69
Total CM _f Repair Man-Hours: 485	Total CM Repair Man-Hours: 721
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 68 90% Confidence Interval Upper Limit: 92 Lower Limit: 52	MTBCM:35
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 9.0 MCMM-: 3.2	MTTR _{cm} : 7.0
MCMMf.	MCMM _{cm} : 3,4
Max. Observed MH: 99	Max. Observed MH: 99
MCMM _f : 13.5 Variance: 550	Variance: 346
Indicated Distribution(s): Exponential	Normal Log Normal _X
*REMARKS: *(1) 207, 208, 209	\$100 Ext. (2000)

Noun Name: <u>Compressor</u> , LP & IP A General Description: <u>Compressor Air</u> LP	
	Federal Stock Number: 2H4310-391-9155
	1974 Strategy and Albert Strategy and Strate
Technical Manual: 349-0503	1000 - Control Street
	Corp.
	Basic Data
Ship Population: CVA 61, 62	Equip. Population/Ship: 3 ea/CVA
Equip. Population in Data Base: 6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.22, B =	0.22, C = 0.22
Total Equip. Operating Time (hours): 23158	
Total Number of: Failures (CM _f): 53	Corrective Maintenance Events (CM): 153
Total CM. Renair Man-Hours: 971	Total CM Repair Man-Hours: 2714
Maintenance Factors: 0.67	
	liability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 151 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556	Mean Time Between Corrective Maintenance MTBCM:151 90% Confidence Interval Upper Limit:174
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 151 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556 Lower Limit: 348	Mean Time Between Corrective Maintenance MTBCM: 151 90% Confidence Interval Upper Limit: 174
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556 Lower Limit: 348 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 151 90% Confidence Interval Upper Limit: 174 Lower Limit: 132 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556 Lower Limit: 348 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.2	Mean Time Between Corrective Maintenance MTBCM: 151 90% Confidence Interval Upper Limit: 174 Lower Limit: 132 tainability Indices Corrective Maintenance — (All Events) MTTRcm: 11.8
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556 Lower Limit: 348 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.2	Mean Time Between Corrective Maintenance MTBCM:151
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556 Lower Limit: 348 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.2 MCMM _f : 3.0 Max. Observed MH: 120	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556 Lower Limit: 348 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.2 MCMM _f : 3.0 Max. Observed MH: 120 MCMM _f : 18.3	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556 Lower Limit: 348 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.2 MCMM _f : 3.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 436 90% Confidence Interval Upper Limit: 556 Lower Limit: 348 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.2 MCMM _f : 3.0 Max. Observed MH: 120 MCMM _f : 18.3	Mean Time Between Corrective Maintenance MTBCM:

	Reipg
General Description: Compressor Air L	Federal Stock Number:
	rederal Stock Number: J.=12400
	23
	Basic Data
DD olia olia DDG oa	19m1176 0 (pp. ppg. */)
Ship Population: DD 941, 942; DDG-21;	IST117 Equip. Population/Ship: 2 ea/DD; DDG; *(1) Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69 C=0.40; DDG/S: A=0.53.B=0.25.C=0.40 **(2
Total Equip. Operating Time (hours): 4677	그리는 불어가 되는 이 그들이 있다. 그는 이 그는 이 사는 이번 이 사람이 가는 이 나를 하는 데 나를 하는데 나를 받는데 하는데 되었다면 하는데 이 전에 걸려면 하는데 없었다.
	Corrective Maintenance Events (CM): 15
Total CMc Repair Man-Hours: 151	Total CM Repair Man-Hours: 224
Maintenance Factors: 0.67	
MTBCM _f : 9354 90% Confidence Interval Upper Limit: 23740 Lower Limit: 4449	MTBCM: 3118 90% Confidence Interval Upper Limit: 5059 Lower Limit: 2025
Mainta	ninability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} : Max. Observed MH:
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 20.1 MCMM _f : 10.0 Max. Observed MH: 128	Corrective Maintenance — (All Events) MTTR _{cm} :

Noun Name: Compressor, LP & IP Air Ro	ipg
General Description: Compressor, Air LP 50	.O CFM 100 PSI CL CC
CID/APL Number(s): 061900179	Federal Stock Number: None *(1)
Equipment Identification Code: ACO1	
Technical Manual: 349-0570	A COLOR OF THE SECTION OF THE SECTION OF
Manufacturer: 93232 Worthington Corp.	2000 CONTROL TO STATE OF THE PARTY OF THE PA
Basic	: Data
Ship Population: DD 946, 948, 950, 951; **	(2) Equip. Population/Ship: $3 \text{ ea/DD } 946.***(3)$
Equip. Population in Data Base: 133	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DD/S: A=0.40, B=0.40, C=	0.40;DDG/S: A= 0.53,B=0.25,C=0.40;****(4)
Total Equip. Operating Time (hours): 799372	
Total Number of: Failures (CM _f): 289	Corrective Maintenance Events (CM): 809
Total CM _f Repair Man-Hours: 6639	Total CM Repair Man-Hours: 20895
Maintenance Factors: 0.67	
Reliabili	ty Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 2765	MTBCM:988
90% Confidence Interval	90% Confidence Interval
Upper Limit: 3056	Upper Limit:1048
Lower Limit: 2509	Lower Limit: 932
Maintainal	pility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Polyge Sweets Certs)
MTTR _f :15.3	MTTR _{cm} : 17.2
MCMM _f : 4.2	MCMM _{cm} :
Max. Observed MH: 432	Max. Observed MH: 801
MCMM _f :23.0	MCMM _{cm} : 25.8
Variance: 2337	Variance: 4354
Indicated Distribution(s): Exponential	Normal Log Normal _X_
*REMARKS: *(1) Dwg-HK-16315.	**(2) DDG 2, 5, 6, 7, 8, 9, 11, 12,
13, 14, 15, 16, 17, 18, 19, 20, 21	. 24: DIG-8, 10, 11, 14, 18, 19, 22,
23, 28, 29, 30, 31, 32, 33; ***(3)	
2-	-162

Noun Name: Compressor, LP & IP Air	
General Description: Compressor Air LP 5	O.O CFM 100 PSI CL CC
CID/APL Number(s): 061900179 (continue	d) Federal Stock Number:
Equipment Identification Code:	Resignative Edena Breach Cotton (AUL)
Technical Manual:	SCORDING COUNTY (contract)
Manufacturer:	et a communitative Session symmetrical
STO Bar	sic Data
Ship Population:	Equip. Population/Ship: ***(3)
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:	2 30.0 = 4 2.00 motors execut
Total Equip. Operating Time (hours):	TOTAL - report and between cost land
	_ Corrective Maintenance Events (CM):
Total CMs Repair Man-Hours:	Total CM Repair Man-Hours:
	All Maria Comments
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
90% Confidence Interval	90% Confidence Interval
Upper Limit:	Upper Limit:
Lower Limit:	Lower Limit:
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :	MTTR _{cm} :
MCMM _f :	MCMM _{cm} :
Max. Observed MH:	Max. Observed MH:
MCMM _f :	MCMM _{cm} :
Variance:	Variance:
Indicated Distribution (s): Exponential	Normal Log Normal
*REMARKS: 4 ea/DDG-2, 5, 9, 11, 12	2, 14, 15, 16, 17, 18, 19, 20, 21; 4 ea/DLG 8, 10, 11, 23, 28, 29, 30,
	19, 22:***(4)DLG/S: A=0.30,B=0.30,C=0

Noun Name: Compressor, HP Air Rcipg	Catalog in the commence of the catalog
General Description: Compressor Air HIP 20	LO CFH 3000 PST CL A
CID/APL Number(s): 061900182	Federal Stock Number: 200106
Equipment Identification Code: AB18	
Technical Manual: 349-0582	
Manufacturer: 93232 Worthington Cor	p.
Basi	ic Data
	*(1) Equip. Population/Ship: $1 \text{ ea/DD; DDG; **}(2)$
Equip. Population in Data Base: 29	Data Assessment Period: 7/1/67 - 6/30/69
	0.02, C = 0.01; ***(3)
Total Equip. Operating Time (hours): 28227	
Total Number of: Failures (CM _f): 246	Corrective Maintenance Events (CM):717
Total CMe Repair Man-Hours: 4437	Total CM Repair Man-Hours: 10213
Maintenance Factors:	
Daliabili	ity Indices
Kenabii	ity indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
	Facility (10) Said 1940 - State Stat
MTBCM _f :	MTBCM:39
90% Confidence Interval	90% Confidence Interval
Upper Limit: 128	Upper Limit: 42
Lower Limit: 103	Lower Limit:37
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 11.9	MTTR _{cm} : 9.5
MCMM _e :3.0	MCMM _{cm} : 3.0
Max. Observed MH: 600	Max. Observed MH:
MCMM _f : 17.9	MCMM _{cm} : 14.2
Variance: 4171	Variance: 2744
Variance.	Valuation.
Indicated Distribution(s): Exponential	Normal Log Normal
**************************************	. 11, 12, 13, 14, 15, 16, 17, 18, 19,
	/CVA; ***(3) DDG/S: A = 0.13, B = 0.05,
	O7, $C = 0.07$ CVA/S: $A = 0.05$, $B = 0.005$,
C = 9.005	,
0 - 4.00)	-164

Noun Name: Compressor, HP Air Rcipg	
General Description: Compressor Air HIP	5.06 CFH 4500 PSI CL B-BB
CID/APL Number(s): 061900183	Federal Stock Number: 200109
Equipment Identification Code: AB 18	
Technical Manual: 349-0584	War Sign
Manufacturer: 93232 Worthington Corp.	Control of the Contro
	Basic Data
Ship Population: DLG 8, 9, 10, 14, 18,	*(1) Equip. Population/Ship: 2 ea/DLG
Equip. Population in Data Base: 20	
Utilization Factors: S: $A = 0.19$, $B = 0$.	025, C = 0.01
Total Equip. Operating Time (hours): 29710	
	Corrective Maintenance Events (CM):193
Total CM _f Repair Man-Hours: 1681	Total CM Repair Man-Hours:3320
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 337 90% Confidence Interval Upper Limit: 406	MTBCM: 153 90% Confidence Interval Upper Limit: 174
(Forced Shutdown Corrective Maintenance) MTBCM _f : 337 90% Confidence Interval Upper Limit: 406 Lower Limit: 283	MTBCM: 153 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 337 90% Confidence Interval Upper Limit: 406 Lower Limit: 283	MTBCM:153 90% Confidence Interval Upper Limit:174 Lower Limit:137
(Forced Shutdown Corrective Maintenance) MTBCM _f :37 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :337 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :337 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

Noun Name: Compressor, LP and IP Ai	r velda
General Description: Compressor Air LP 20	
	Federal Stock Number: HI_16873 Dwg.
Equipment Identification Code: AC=01	
alla acor	
Manufacturer: 93232 Worthington Corp.	200 Prijonitija (koji maja 100 100 100 100 100 100 100 100 100 10
Bas	sic Data
Ship Population: AE 21, 22, 23, 25; *(1)	Equip. Population/Ship: 3 ea/AE; 3 ea/CVA
Equip. Population in Data Base:15	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.22, B = 0.22	2, C = 0.22
Total Equip. Operating Time (hours):	57404
Total Number of: Failures (CM _f): 39.	_ Corrective Maintenance Events (CM):129
	Total CM Repair Man-Hours: 2512
Maintenance Factors:	0.67
	ility Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1471 90% Confidence Interval Upper Limit: 1957 Lower Limit: 1127	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1471 90% Confidence Interval Upper Limit: 1957 Lower Limit: 1127 Maintain	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518 Lower Limit: 384 ability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1471 90% Confidence Interval Upper Limit: 1957 Lower Limit: 1127 Maintain	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518 Lower Limit: 384 ability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518 Lower Limit: 384 ability Indices Corrective Maintenance — (All Events) MTTRcm: 13.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518 Lower Limit: 384 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.0 MCMM _{cm} : 4.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518 Lower Limit: 384 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.0 MCMM _{cm} : 4.0 Max. Observed MH: 340.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518 Lower Limit: 384 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.0 MCMM _{cm} : 4.0 Max. Observed MH: 340.0 MCMM _{cm} : 19.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518 Lower Limit: 384 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.0 MCMM _{cm} : 4.0 Max. Observed MH: 340.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 444 90% Confidence Interval Upper Limit: 518 Lower Limit: 384 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.0 MCMM _{cm} : 4.0 Max. Observed MH: 340.0 MCMM _{cm} : 19.5

CID/APL Number(s): 061900194	Federal Stock Number:2S4310-722-7766
Equipment Identification Code: AC 01	
Technical Manual: 349-0626	
Manufacturer: 93232 Worthington Corp.	
	Basic Data
Ship Population: DD 937, 940, 941, 948	$\frac{3*(1)}{2}$ Equip. Population/Ship: $\frac{2 \text{ ea/DD; DDG**}}{2}$
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DD/S: A=0.40, B=0.40	,C=0.40; DDG/S: A=0.53,B=0.25,C=0.40; *
Total Equip. Operating Time (hours): 41866	
	Corrective Maintenance Events (CM):
Total CMc Repair Man-Hours: 1485	Total CM Repair Man-Hours: 2645
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 805 90% Confidence Interval Upper Limit: 1028	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:306
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 805 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 266 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 805 90% Confidence Interval Upper Limit: 1028 Lower Limit: 639	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:306
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 805 90% Confidence Interval Upper Limit: 1028 Lower Limit: 639 Maintenance Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 805 90% Confidence Interval Upper Limit: 1028 Lower Limit: 639 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 805 90% Confidence Interval Upper Limit: 1028 Lower Limit: 639 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 805 90% Confidence Interval Upper Limit: 1028 Lower Limit: 639 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :805 90% Confidence Interval Upper Limit:1028 Lower Limit:639 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :19.0 MCMM _f :3.0 Max. Observed MH:790	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 805 90% Confidence Interval Upper Limit: 1028 Lower Limit: 639 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.0 MCMM _f : 3.0	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Compressor, LP & IP Air	
General Description: Compressor Air LP 1	
CID/APL Number(s): 061900198	Federal Stock Number: HL-17785 Dwg
Equipment Identification Code: ACO1	
Technical Manual: 349-0638	Constitution (present frames)
Manufacturer: 93232 Worthington Corp.	
Ba	sic Data
Ship Population: LPD 1, 2, 3, 4, 5, 6, 7	Equip. Population/Ship: 2 ea/LPD
Equip. Population in Data Base:14	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.40, B = 0.	20, C = 0.20
Total Equip. Operating Time (hours): 73578	A REAL PROPERTY OF A STATE OF THE REAL PROPERTY OF THE PROPERT
	Corrective Maintenance Events (CM):49
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:1181
Maintenance Factors:	
Reliab	pility Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	เหมือนเป็นเป็น พระเมาะการในกระทำใหม่ที่ เลยเลกไร
	MTBCM: 1501
MTBCM _f :5659	MTBCM: 1501
MTBCM _f : 5659 90% Confidence Interval	MTBCM: 1501 90% Confidence Interval
MTBCM _f : 5659 90% Confidence Interval Upper Limit: 9569	MTBCM: 1501 90% Confidence Interval Upper Limit: 1932
MTBCM _f : 5659 90% Confidence Interval Upper Limit: 9569	MTBCM: 1501 90% Confidence Interval
MTBCM _f : 5659 90% Confidence Interval Upper Limit: 9569 Lower Limit: 3560	MTBCM: 90% Confidence Interval Upper Limit:1932 Lower Limit:1183
MTBCM _f : 5659 90% Confidence Interval Upper Limit: 9569 Lower Limit: 3560	MTBCM: 1501 90% Confidence Interval Upper Limit: 1932
MTBCM _f :5659 90% Confidence Interval Upper Limit:9569 Lower Limit:3560 Maintain	MTBCM: 1501 90% Confidence Interval Upper Limit: 1932 Lower Limit: 1183
MTBCM _f : 5659 90% Confidence Interval Upper Limit: 9569 Lower Limit: 3560 Maintain Corrective Maintenance — (Forced Shutdown	MTBCM: 1501 90% Confidence Interval Upper Limit: 1932 Lower Limit: 1183 nability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 9569 Lower Limit: 3560 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 1501 90% Confidence Interval Upper Limit: 1932 Lower Limit: 1183 nability Indices Corrective Maintenance — (All Events)
MTBCM _f :5659 90% Confidence Interval Upper Limit:9569 Lower Limit:3560 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _e :18.4	MTBCM: 1501 90% Confidence Interval Upper Limit: 1932 Lower Limit: 1183 nability Indices Corrective Maintenance — (All Events)
MTBCM _f :5659 90% Confidence Interval Upper Limit:9569 Lower Limit:3560 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :18.4 MCMM _f :12.0	MTBCM:
MTBCM _f :	MTBCM:
MTBCM _f :5659 90% Confidence Interval Upper Limit:9569 Lower Limit:3560 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :18.4 MCMM _f :12.0 Max. Observed MH:96 MCMM _f :27.6	MTBCM:
MTBCM _f :	MTBCM:
MTBCM _f :5659 90% Confidence Interval Upper Limit:9569 Lower Limit:3560 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :18.4 MCMM _f :12.0 Max. Observed MH:96 MCMM _f :27.6	MTBCM:
MTBCM _f :5659 90% Confidence Interval Upper Limit:9569 Lower Limit:3560 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :18.4 MCMM _f :12.0 Max. Observed MH:6 MCMM _f :27.6 Variance:	MTBCM: 1501 90% Confidence Interval Upper Limit: 1932 Lower Limit: 1183 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.1 MCMM _{cm} : 8.0 Max. Observed MH: 120 MCMM _{cm} : 24.1 Variance: 1048

General Description: Compressor Air LP	
	Federal Stock Number: HL-18136 Dwg
	1005 sales) primaritimals inscensiva
	And the second s
Manufacturer: 93232 Worthington Cor	p
ese i	Basic Data
Ship Population: 224 23 23 43 2	Equip. Population/Ship: 2 ea/DEG Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours): 47648	25, C = 0.30
	Corrective Maintenance Events (CM): 30
Maintenance Factors: 0.67	Total CM Repair Man-Hours: 357
	Mean Time Returns Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331	Mean Time Between Corrective Maintenance MTBCM: 1588
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval Upper Limit: 7724	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval Upper Limit: 2207
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval Upper Limit: 7724 Lower Limit: 2617	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval Upper Limit: 2207
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval Upper Limit: 7724 Lower Limit: 2617 Mainta	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval Upper Limit: 2207 Lower Limit: 1171
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval Upper Limit: 7724 Lower Limit: 2617 Mainta	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval Upper Limit: 2207 Lower Limit: 1171
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 4331 90% Confidence Interval Upper Limit: 7724 Lower Limit: 2617 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRs: 3.7	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval
$\begin{array}{c} \text{Mean Time Between Failure} \\ \text{(Forced Shutdown Corrective Maintenance)} \\ \text{MTBCM}_{\mathbf{f}} : $	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval Upper Limit: 7724 Lower Limit: 2617 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.7 MCMM _f : 4.0 Max. Observed MH: 18.5	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval Upper Limit: 7724 Lower Limit: 2617 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.7 MCMM _f : 4.0 Max. Observed MH: 18.5 MCMM _f : 5.6	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval Upper Limit: 7724 Lower Limit: 2617 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.7 MCMM _f : 4.0 Max. Observed MH: 18.5	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4331 90% Confidence Interval Upper Limit: 7724 Lower Limit: 2617 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.7 MCMM _f : 4.0 Max. Observed MH: 18.5 MCMM _f : 5.6	Mean Time Between Corrective Maintenance MTBCM: 1588 90% Confidence Interval

Noun Name: Compressor, LP & IP	Air Rcipg, DSL Air Starting
General Description: Compressor Air L	P 11.4 CFM 600 PSI CL T
CID/APL Number(s): 061900208	Federal Stock Number: HI-13979
Equipment Identification Code: ACO1	
Technical Manual: 349-0528	
Manufacturer: 93232 Worthington	Corp.
	Basic Data
	Equip. Population/Ship: 2 ea/MSØ
Equip. Population in Data Base: 4	Data Assessment Period: 7/1/67 - 6/30/69
	= 0.01, C = 0.01
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	9 Corrective Maintenance Events (CM):17
Total CM _e Repair Man-Hours:55	Total CM Repair Man-Hours:120
Maintenance Factors:0.6	7
90% Confidence Interval Upper Limit: 150 Lower Limit: 45	MTBCM:41 90% Confidence Interval Upper Limit:65 Lower Limit:28
Ma	aintainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	ACCIDENT AND
MTTR _f : 4.1	MIIR _{cm} :
MCMM _f : 5.2	MCMM _{cm} : 5.5
Max. Observed MH:15	Max. Observed MH: 27
MCMM _f :6.1	MCMM _{cm} : 7.1
Variance: 25.4	Variance: 46
Indicated Distribution (s): Exponential	
*REMARKS:	

and the state of t
.5 CFH 3000 PSI CL B-BB
Federal Stock Number: 200109M
A CONTRACTOR OF THE PROPERTY O
The second secon
sic Data
5;*(1 Equip. Population/Ship: 2 ea/DE: DEG: DLG;
Data Assessment Period: 7/1/67 - 6/30/69
.025, C = 0.013; DEG/**(2)
Corrective Maintenance Events (CM):15
Total CM Repair Man-Hours: 1096
50% N
MTBCM: 184 90% Confidence Interval Upper Limit: 217 Lower Limit: 158
ability Indices
Corrective Maintenance — (All Events)
MTTR _{cm} :6.4
MCMM _{cm} :4.0
Max. Observed MH: 118
MCMM _{cm} : 9.5
Variance: 302
Normal Log NormalX
33: **(2) S: A = 0.06, B = 0.025 .025, C = 0.01

General Description: Compressor Air HIP 13. CID/APL Number(s): 061900211 Cquipment Identification Code: AB18 Cechnical Manual: None Manufacturer: 93232 Worthington Corp.	Federal Stock Number: 200112
ID/APL Number(s): 061900211 quipment Identification Code: AB18 echnical Manual: None fanufacturer: 93232 Worthington Corp.	Federal Stock Number: 200112
quipment Identification Code: AB18 echnical Manual: None lanufacturer: 93232 Worthington Corp.	A section of the production of the section of the s
echnical Manual: None anufacturer: 93232 Worthington Corp.	A SECULO DE LA CONTRACTOR DEL CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR
	CHEST COUNTY STATES OF VEHICLE WAS AND
Basic	Data
hip Population: SSBN: 640, 641, 642, 643	*(1) Equip. Population/Ship: 3 ea/SSBN
quip. Population in Data Base: 33	Data Assessment Period: 7/1/67 - 6/30/69
tilization Factors: S: A = 0.03, B = 0.10	C = 0.10
otal Equip. Operating Time (hours): 29394	Auto-Confliction Confliction
otal Number of: Failures (CM _f): 232	Corrective Maintenance Events (CM):361
otal CM. Renair Man-Hours: 2246	Total CM Repair Man-Hours:5468
faintenance Factors: 0.67	Section and the second section is
(Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 81
106	western and the return of the central broads.
### 126 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 81 90% Confidence Interval Upper Limit: 89
90% Confidence Interval Upper Limit: 142 Lower Limit: 114 Maintainab	MTBCM: 81 90% Confidence Interval Upper Limit: 89 Lower Limit: 75
90% Confidence Interval Upper Limit: 142 Lower Limit: 114 Maintainab Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 81 90% Confidence Interval Upper Limit: 89 Lower Limit: 75 sility Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 142 Lower Limit: 114 Maintainab orrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 81 90% Confidence Interval Upper Limit: 89 Lower Limit: 75 mility Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit:142 Lower Limit:14 Maintainab orrective Maintenance — (Forced Shutdown Failure Events Only) ITTR _f :6.5 ICMM _f :2.0	MTBCM: 81 90% Confidence Interval Upper Limit: 89 Lower Limit: 75 Sility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.1 MCMM _{cm} : 3.0
90% Confidence Interval Upper Limit:142 Lower Limit:14 Maintainab orrective Maintenance — (Forced Shutdown Failure Events Only) ITTR _f :6.5 ICMM _f :2.0 Max. Observed MH:374	MTBCM:
90% Confidence Interval Upper Limit:142 Lower Limit:114 Maintainab Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.5 MCMM _f :2.0 Max. Observed MH:374 MCMM _f :9.7	MTBCM: 81 90% Confidence Interval Upper Limit: 89 Lower Limit: 75 Sility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.1 MCMM _{cm} : 3.0
MTBCM _f :	MTBCM:

Noun Name: Compressor HP Air Rcipg.	Countries with a service of the serv
	O CFH 3000 PSI CL A
CID/APL Number(s): 061900218	Federal Stock Number: HK18808
Equipment Identification Code: AB18	
Technical Manual: 0949-003-9000	
Manufacturer: 93232 Worthington Corp.	
Bas	ic Data
	O7 Equip. Population/Ship: 2 ea/AE 1 ea/AØ
Equip. Population in Data Base: 9	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AE-S: A=0.02, B=0.0,	C=0.0/A0-S: A=0.02, B=0.05, C=0.0
Total Equip. Operating Time (hours): 1450	
Total Number of: Failures (CM _f): 3	Corrective Maintenance Events (CM):6
Total CMc Repair Man-Hours: 8	Total CM Repair Man-Hours: 28
Maintenance Factors:	
	· ·
Mean Time Between Failure (Forced Shutdown Corrective Maistenance) MTBCM _f : 483	Mean Time Between Corrective Maintenance MTBCM:241
90% Confidence Interval	90% Confidence Interval
Upper Limit: <u>1773</u>	Upper Limit: 555
Lower Limit: 187	Lower Limit: 122
Maintains	ability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	The Desired Section 1
MTTR _f : 1.8	MTTR _{cm} : 3.1
MCMM _f : 2.0	MCMM _{cm} : 4.1
Max. Observed MH:6	Max. Observed MH:10
MCMM _f 2.7	MCMM _{cm} : 4.6
Variance: 9	Variance: 19
Indicated Distribution (s): Exponential	Normal Log Normal
-DEMARKS	

Noun Name: Compressor HP Air Rcipg	CONTROL SELECTION OF SELECTION
General Description: Compressor Air HIP 3	O.O CFH 3000 PSI CL SPCL
CID/APL Number(s): 061900277	Federal Stock Number:
Equipment Identification Code: AB18	
Technical Manual: 0949-014-0010	Colored Providence
Manufacturer: 93232 Worthington C	orp.
Ba	sic Data
Ship Population: CVA 61, 64	Equip. Population/Ship: 5/CVA 61; 6/CVA 6 Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: $A = 0.50$, $B = 0$.	25, C = 0.0
Total Equip. Operating Time (hours): 9563	
Total Number of: Failures (CM _f): 104	_ Corrective Maintenance Events (CM):260
Total CM _e Repair Man-Hours: 837	Total CM Repair Man-Hours: 3385
Maintenance Factors: 0.67	AND
MTBCM _f : 919 90% Confidence Interval Upper Limit: 22383 Lower Limit: 781	MTBCM: 367 90% Confidence Interval Upper Limit: 409 Lower Limit: 332
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 5.4	MTTR _{cm} : _8.7
MCMM _f : 2.0	MCMM _{em} : _5.0
Max. Observed MH:136	Max. Observed MH: 408
$\overline{\text{MCMM}}_{\mathbf{f}}$: 8.1	MCMM _{cm} : 13.0
Variance: 401	Variance: 1059
Indicated Distribution(s): Exponential	Normal Log Normal _X
*REMARKS:	

Noun Name: Compressor LP & IP Air	Reipg
General Description: Compressor CTFGL 50.	O CFM 85 PSI
CID/APL Number(s): <u>067000002</u>	Federal Stock Number:AA-566
Equipment Identification Code: ACO1	
Technical Manual: 349-0605	
Manufacturer: 42280 Nash Engineering	Co.
Basi	c Data
Ship Population: CVA 61, 62, 64	Equip. Population/Ship: 8 ea/CVA
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.40, B = 0.15	
Total Equip. Operating Time (hours): 105096	
	Corrective Maintenance Events (CM):51
	Total CM Repair Man-Hours: 3660
Maintenance Factors: 0.67	Total CW Repair Man-Hours.
MTBCM _f :11677 90% Confidence Interval	MTBCM:
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 233.5	Corrective Maintenance — (All Events) MTTP . 47.8
MCMM _f : 8.0	MTTR _{cm} : 47.8 MCMM _{cm} : 6.6
Max. Observed MH: 3000	Max. Observed MH: 3000
MCMM _f : 350.2	MCMM _{cm} : 71.8
Variance: 988628	Variance: 175386
Indicated Distribution(s): Exponential	Normal Log Normal _X
*REMARKS:	

Noun Name:Distilling Plant, Vapor	Compression
General Description: Distillation Unit	
	_ Federal Stock Number:15391
	K04000
Technical Manual: 350-0357	
Manufacturer: 29899 Hyde Corp.	
Ship Population: SSBN 598, 599, 600, 60	asic Data 1.* Equip. Population/Ship: 1 ea/SSBN; SSI Data Assessment Period: 7/1/67 - 6/30/0
Equip. Population in Data Base:	Data Assessment Period: (/1/0/ - 0/30/0
	00, C=0.00; SSN/S; A=0.01, B=0.00,**
Total Equip. Operating Time (hours): 71 Total Number of: Failures (CM _f): 14	Corrective Maintenance Events (CM): 74
Total CM _f Repair man-Hours:	Total CM Repair Man-Hours:909
MTBCM _f : 90% Confidence Interval Upper Limit:84 Lower Limit:33	90% Confidence Interval Upper Limit: 12 Lower Limit: 8
Maintain Maintain	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
MTTRe: 12.9	MTTR _{cm} : 8.2
MCMM _f :3.5	MCMM _{cm} : 3.0
Max. Observed MH: 200	Max. Observed MH:
MCMM _f : 19.4	MCMM _{cm} : 12.3
Variance: 53	Variance: 850
Indicated Distribution(s): Exponential *REMARKS: *602; SSN 585, 588; ***	Normal Log Normal _X
*KEMARKS: OOZ, BBN JOJ, JOG,	<u></u>

Equipment Identification Code: AE03000/T. 358-0382 Manufacturer: 29899 Hyde Corp. Ship Population: SSBN 608, 609, 628, 600 Equip. Population in Data Base: 24 Utilization Factors: SSBN/S; A=0.01, B=0.01, B=0.01 Total Equip. Operating Time (hours): 1307 Total CMf Repair Man-Hours: 1307 Maintenance Factors: 0.67	### Propulation/Ship: 1 ea/SSBN; SSN Data Assessment Period: 7/1/67 - 6/30/69 0.00, C=0.00; SSN/S; A=0.01, B=0.00,**
Equipment Identification Code: AE03000/T. Sechnical Manual: 358-0382 Manufacturer: 29899 Hyde Corp. Ship Population: SSBN 608, 609, 628, 69 Equip. Population in Data Base: 24 Utilization Factors: SSBN/S; A=0.01, B= Total Equip. Operating Time (hours): 63 Total CM _f Repair Man-Hours: 1307 Maintenance Factors: 1307 Reli Mean Time Between Failure	### Federal Stock Number:EB13065A KO4000
Equipment Identification Code: AE03000/T. 358-0382 Manufacturer: 29899 Hyde Corp. Ship Population: SSBN 608, 609, 628, 600 Equip. Population in Data Base: 240 Utilization Factors: SSBN/S; A=0.01, B=000 Total Equip. Operating Time (hours): 5000 Total Number of: Failures (CMf): 630 Total CMf Repair Man-Hours: 1307 Maintenance Factors: 0.67 Relice Mean Time Between Failure	Basic Data 29,* Equip. Population/Ship: 1 ea/SSBN; SSN Data Assessment Period: 7/1/67 - 6/30/69 0.00, C=0.00; SSN/S; A=0.01, B=0.00, ** 2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Manufacturer: 29899 Hyde Corp. Ship Population: SSBN 608, 609, 628, 6 Equip. Population in Data Base: 24 Utilization Factors: SSBN/S; A=0.01, B= Total Equip. Operating Time (hours): 63 Total Number of: Failures (CM _f): 63 Total CM _f Repair Man-Hours: 1307 Maintenance Factors: 0.67 Reli	Basic Data 29,* Equip. Population/Ship: 1 ea/SSBN; SSN Data Assessment Period: 7/1/67 - 6/30/69 0.00, C=0.00; SSN/S; A=0.01, B=0.00, ** 2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Ship Population: SSBN 608, 609, 628, 6 Equip. Population in Data Base: 24 Utilization Factors: SSBN/S; A=0.01, B= Total Equip. Operating Time (hours): 63 Total Number of: Failures (CMf): 63 Total CMf Repair Man-Hours: 1307 Maintenance Factors: 0.67 Reli	Basic Data 29,* Equip. Population/Ship: 1 ea/SSBN; SSN Data Assessment Period: 7/1/67 - 6/30/69 0.00, C=0.00; SSN/S; A=0.01, B=0.00, ** 2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Ship Population: SSBN 608, 609, 628, 6 Equip. Population in Data Base: 24 Utilization Factors: SSBN/S; A=0.01, B= Total Equip. Operating Time (hours): 63 Total Number of: Failures (CMf): 63 Total CMf Repair Man-Hours: 1307 Maintenance Factors: 0.67 Reli	29,* Equip. Population/Ship: 1 ea/SSBN; SSN Data Assessment Period: 7/1/67 - 6/30/69 0.00, C=0.00; SSN/S; A=0.01, B=0.00, ** 2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Ship Population: SSBN 608, 609, 628, 69 Equip. Population in Data Base: 24 Utilization Factors: SSBN/S; A=0.01, B= Total Equip. Operating Time (hours): Total Number of: Failures (CMf): 63 Total CMf Repair Man-Hours: 1307 Maintenance Factors: 0.67 Reli	29,* Equip. Population/Ship: 1 ea/SSBN; SSN Data Assessment Period: 7/1/67 - 6/30/69 0.00, C=0.00; SSN/S; A=0.01, B=0.00, ** 2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Equip. Population in Data Base: 24 Utilization Factors: $SSBN/S$; $A=0.01$, $B=$ Total Equip. Operating Time (hours):	Data Assessment Period: 7/1/67 - 6/30/69 60.00, C=0.00; SSN/S; A=0.01, B=0.00,** 2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Equip. Population in Data Base: 24 Utilization Factors: $SSBN/S$; $A=0.01$, $B=$ Total Equip. Operating Time (hours):	Data Assessment Period: 7/1/67 - 6/30/69 60.00, C=0.00; SSN/S; A=0.01, B=0.00, ** 2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Utilization Factors: SSBN/S; A=0.01, B= Total Equip. Operating Time (hours): Total Number of: Failures (CMf): 63 Total CMf Repair Man-Hours: 1307 Maintenance Factors: 0.67 Reli Mean Time Between Failure	2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Total Equip. Operating Time (hours): Total Number of: Failures (CMf): 63 Total CMf Repair Man-Hours: 1307 Maintenance Factors: 0.67 Reli	2874 Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Total Number of: Failures (CM _f): 63 Total CM _f Repair Man-Hours: 1307 Maintenance Factors: 0.67 Reli	Corrective Maintenance Events (CM): 266 Total CM Repair Man-Hours: 5648
Total CM _f Repair Man-Hours: 1307 Maintenance Factors: 0.67 Reli Mean Time Between Failure	Total CM Repair Man-Hours:5648
Reli Mean Time Between Failure	
Reli Mean Time Between Failure	
Mean Time Between Failure	iability Indices
MTBCM _f : 45 90% Confidence Interval	MTBCM: 10 90% Confidence Interval
Upper Limit: 57	Upper Limit: 12
Lower Limit: 37	Lower Limit: 10
	ainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 13.4	MTTR _{cm} : 14.2
MCMM _f : 3.0	MCMM _{cm} : 3.5
Max. Observed MH: 430	Max. Observed MH: 578
MCMM _f : 20.1	MCMM _{cm} : 21.2
Variance: 5499	Variance: 4312
Indicated Distribution (s): Exponential	Normal Log NormalX
	534, 635, 636, 640, 641, 642, 643, 644,
645 654 655 656 657	658, 659; SSN 594 **C=0.00
	200

	Federal Stock Number:F3-201A DO/TK03000 c Data Equip. Population/Ship:2 ea/LPH Data Assessment Period: 7/1/67 - 6/30/69
Equipment Identification Code: AE0200 Technical Manual: None Manufacturer: 29899 Hyde Corp. Basic Ship Population: LPH 2, 3, 7 Equip. Population in Data Base: 6	c Data Equip. Population/Ship: 2 ea/LPH Data Assessment Period: 7/1/67 - 6/30/69
Technical Manual: None Manufacturer: 29899 Hyde Corp. Basic Ship Population: LPH 2, 3, 7 Equip. Population in Data Base: 6	c Data Equip. Population/Ship: 2 ea/LPH Data Assessment Period: 7/1/67 - 6/30/69
Manufacturer: 29899 Hyde Corp. Basic Ship Population: LPH 2, 3, 7 Equip. Population in Data Base: 6	c Data Equip. Population/Ship: 2 ea/LPH Data Assessment Period: 7/1/67 - 6/30/69
Ship Population: LPH 2, 3, 7 Equip. Population in Data Base: 6	c Data Equip. Population/Ship: 2 ea/LPH Data Assessment Period: 7/1/67 - 6/30/69
Ship Population: LPH 2, 3, 7 Equip. Population in Data Base: 6	Equip. Population/Ship: 2 ea/LPH Data Assessment Period: 7/1/67 - 6/30/69
Ship Population: LPH 2, 3, 7 Equip. Population in Data Base: 6 Utilization Factors: S: A=0.97, B=0.43, C=	Equip. Population/Ship: 2 ea/LPH Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base: 6 Litilization Factors: S: A=0.97, B=0.43, C=	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.97, B=0.43, C=	=0.00
Utilization Factors.	-0.00
Total Equip. Operating Time (hours):	51916
Total Number of: Failures (CM _f): 10	Corrective Maintenance Events (CM): 60
	Total CM Repair Man-Hours:1475
Maintenance Factors: 0.67	
90% Confidence Interval Upper Limit: 9569	90% Confidence Interval Upper Limit: 1085
Lower Limit: 3061	Lower Limit: 698
Corrective Maintenance — (Forced Shutdown Failure Events Only MTTR _f : 4.6 MCMM _f : 5.3 Max. Observed MH: 20 MCMM _f : 6.9	Corrective Maintenance — (All Events) MTTR _{cm} : 16.4 MCMM _{cm} : 8.0 Max. Observed MH: 264 MCMM _{cm} : 24.6
Variance:37	Variance: 2118
*REMARKS:	Normal Log NormalX

	lash Type
General Description: Distillation Unit 12	2000 GPD 768 Sq. Ft. 800 TB 2STG
CID/APL Number(s): 080030009	Federal Stock Number: 641-198
Equipment Identification Code: AE02000/TK0	03000
Technical Manual: 358-0354	
Manufacturer: 12793 Aqua Chem Inc.	Cleaver Brooks Div.
well Ba	asic Data
Ship Population: DLG 10, 11;	Equip. Population/Ship: 2 ea/DLG
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S; A=0.93, B=0.43, (C=0.00
Total Equip. Operating Time (hours): 344	22
Total Number of: Failures (CM _f): 9	Corrective Maintenance Events (CM):
	Total CM Repair Man-Hours:5787
Maintenance Factors:	.67
90% Confidence Interval Upper Limit: 7331 Lower Limit: 2192	MTBCM: 344 90% Confidence Interval Upper Limit: 409 Lower Limit: 292
Maintair	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
$MTTR_{f}$: 6.5	MTTR _{cm} : 38.6
MCMM _f :6.1	MCMM _{cm} : 8.8
Max. Observed MH: 42	Max. Observed MH: 1096
MCMM _f :9.8 Variance:149	MCMM _{cm} : 57.9 Variance: 20097
Indicated Distribution(s): Exponential	Normal Log NormalX

Noun Name: Distilling Plant, LP Fla	asii iybe
	4000 GPD 416 Sq. Ft. 660 TB 2 STG
CID/APL Number(s): 080030010	
Equipment Identification Code: AE02000/TK	
Technical Manual: None	
	Cleaver Brooks Div.
atel Be	asic Data
DE 1033 103/1•	2 00 /DE
Ship Population: DE 1033, 1034,	Equip. Population/Ship: ea/DE
Equip. Population in Data Base: 4	Equip. Population/Ship: 2 ea/DE Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S, A20.00, B20.20,	2873
Total Number of: Failures (CM): 13	Corrective Maintenance Events (CM):54
	Total CM Repair Man-Hours:780
Maintenance Factors: 0.6	0.(
Reliab Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 990 90% Confidence Interval	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 990	Mean Time Between Corrective Maintenance MTBCM: 238 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:1674 Lower Limit:623	Mean Time Between Corrective Maintenance MTBCM: 238 90% Confidence Interval Upper Limit: 303
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :90 90% Confidence Interval Upper Limit:1674 Lower Limit:623 Maintain	Mean Time Between Corrective Maintenance MTBCM: 238 90% Confidence Interval Upper Limit: 303 Lower Limit: 190
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :90 90% Confidence Interval Upper Limit:1674 Lower Limit:623 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.1	MTBCM: 238 90% Confidence Interval Upper Limit: 303 Lower Limit: 190 nability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :90 90% Confidence Interval Upper Limit:1674 Lower Limit:623 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.1 MCMM _f :4.0	MTBCM: 238 90% Confidence Interval Upper Limit: 303 Lower Limit: 190 hability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6 MCMM _{cm} : 4.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :90 90% Confidence Interval Upper Limit:1674 Lower Limit:623 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.1 MCMM _f :4.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :90 90% Confidence Interval Upper Limit:1674 Lower Limit:623 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.1 MCMM _f :4.0 Max. Observed MH:35 MCMM _f :9.1 13.5	MTBCM: 238 90% Confidence Interval Upper Limit: 303 Lower Limit: 190 hability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6 MCMM _{cm} : 4.0 Max. Observed MH: 151 MCMM _{cm} : 14.4

Equipment Identification

Noun Name: Distilling Plant, LP Flash Type

General Description: Distillation Unit	30,000 490 Sq. Ft. 216 TB 3STG
	Federal Stock Number: 641-265D
	03000
Technical Manual: 358-0384	
Manufacturer: 12793 Aqua Chem Inc. (Cleaver Brooks Div.
atala Be	asic Data
Ship Population: LPD 1, 2, 3, 4, 5, 6,	7 Equip. Population/Ship: 2 ea/LPD
Equip. Population in Data Base: 14	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S; A=1.00, B=0.35, C	C=0.00
Total Equip. Operating Time (hours):	99417
Total Number of: Failures (CM _f): 30	Corrective Maintenance Events (CM):160
Total CMe Repair Man-Hours: 630	Total CM Repair Man-Hours:3808
Maintenance Factors: 0.6	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3313	MTBCM:621
90% Confidence Interval	90% Confidence Interval
Upper Limit: 4604	Upper Limit: 711
Lower Limit: 2443	Lower Limit: 545
Maintain	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	i glitti etmek sonna-
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Citi
Max. Observed MH: 158	MCMM _{cm} :9.0 Max. Observed MH:173
MCMM _f : 21.0	20-4 TO 10-10 - OLD 2004 - 40-0 C 244-0 C 244-
Variance: 1420	MCMM _{cm} : 23.8 Variance: 1339
variance:	variance:
Indicated Distribution(s): Exponential	Normal Log NormalX
*REMARKS:	
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Equipment Identification

Noun Name:Distilling Plan			
		.000 GPD 2700 Sq. Ft. 1190 TE	
		Federal Stock Number: 633-137D	
Equipment Identification Code:	AE02000/	TK03000	HILD SHE
Technical Manual: None			THE PERSON
Manufacturer: 12793 Aqua Che	em Inc. C	leaver Brooks Div.	etropale -
	Basic	c Data	
Ship Population: AS 31, 32		Equip. Population/Ship: 2 ea/AS Data Assessment Period: 7/1/67 -	-
Equip. Population in Data Base:	4	Data Assessment Period: 7/1/67 -	6/30/69
Utilization Factors: S: A=1.00,	B=0.70,	C=0.0	
Total Equip. Operating Time (hours): _	43	531	
Total Number of: Failures (CMf):	13	Corrective Maintenance Events (CM):	49
Total CM. Repair Man-Hours: 33	37	Total CM Repair Man-Hours: 1186	
Maintenance Factors:	0.67		
Mean Time Between Failure (Forced Shutdown Corrective Mains		Mean Time Between Corrective Maintenance	
(Forced Shutdown Corrective Mains MTBCM _f : 3348 90% Confidence Interval Upper Limit: 5661		Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval Upper Limit: 1143	natu Natu
(Forced Shutdown Corrective Mains MTBCM _f : 3348 90% Confidence Interval		Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval	natu Natu
(Forced Shutdown Corrective Mains MTBCM _f : 3348 90% Confidence Interval Upper Limit: 5661	tenance)	Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval Upper Limit: 1143	natu Natu
(Forced Shutdown Corrective Mains MTBCM _f : 3348 90% Confidence Interval Upper Limit: 5661	tenance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval	Detw ve
(Forced Shutdown Corrective Maintenance — (Forced Shutdown Corrective Ma	tenance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval Upper Limit: 1143 Lower Limit: 700 bility Indices Corrective Maintenance — (All Events)	Detw ve
(Forced Shutdown Corrective Maintenance — 3348 90% Confidence Interval Upper Limit: 5661 Lower Limit: 2106 Corrective Maintenance — (Forced Shutdown)	tenance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval	Detw ve
(Forced Shutdown Corrective Mainted MTBCM _f : 3348 90% Confidence Interval Upper Limit: 5661 Lower Limit: 2106 Corrective Maintenance — (Forced Shutden Failure Events Only) MTTR _f : 17,3 MCMM _f : 12.0 Max. Observed MH: 112	tenance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval Upper Limit: 1143 Lower Limit: 700 bility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.1 MCMM _{cm} : 13.0 Max. Observed MH: 112	Detw ve
(Forced Shutdown Corrective Mainted MTBCM _f :348 90% Confidence Interval	tenance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval	Detw ve
(Forced Shutdown Corrective Mainted MTBCM _f : 3348 90% Confidence Interval Upper Limit: 5661 Lower Limit: 2106 Corrective Maintenance — (Forced Shutden Failure Events Only) MTTR _f : 17,3 MCMM _f : 12.0 Max. Observed MH: 112	tenance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval Upper Limit: 1143 Lower Limit: 700 bility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.1 MCMM _{cm} : 13.0 Max. Observed MH: 112	Detw ve
(Forced Shutdown Corrective Mainted MTBCM _f :348 90% Confidence Interval	tenance) Maintainal	Mean Time Between Corrective Maintenance MTBCM: 888 90% Confidence Interval	Cartina Na Nacettes Co Start ATTIME MINISTER NACETTES CONTRACTOR NACETTES CONTRACTOR N

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	lash Type	
General Description: Distillation Unit		
CID/APL Number(s): 080030017	Federal Stock Number:	641-312
Equipment Identification Code: AE02000/T	K03000	gogethaset siec rogeth
Technical Manual: 358-0405		grave(4.19.3e/16/1
Manufacturer: 12793 Aqua Chem Inc	. Cleaver Brooks Div.	TANK DELEMBER
	Basic Data	2 ea/DDG
Ship Population: DDG 20, 21, 24; Equip. Population in Data Base: 5	Equip. Population/Shi	p:
Equip. Population in Data Base:	Data Assessment Perio	d: 7/1/67 - 6/30/69
Utilization Factors: S; A=1.00, B=0.45		
Total Equip. Operating Time (hours):	62708	armed par acc
Total Number of: Failures (CM _f): 18	Corrective Maintenance Eve	ents (CM):
Total CM _f Repair Man-Hours: 119	Total CM Repair Man-Hour	s: 3458
Maintenance Factors:	.67	stotiské uvojapavnitá
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3843 90% Confidence Interval	MTBCM: 545 90% Confidence Interv	AND THE PROPERTY OF THE PROPER
Upper Limit: 5390	Upper Limit:	Cha
Opper Lime.		640
Lower Limit: <u>2349</u>	Lower Limit:	467
	Lower Limit:	467
Mainta	Lower Limit:	467
Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Lower Limit: inability Indices Corrective Maintenance — (All Events)
Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR.: 4.4	Lower Limit: inability Indices Corrective Maintenance — (MTTR _{cm} :	All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 4.9	Lower Limit:inability Indices	All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 4.9 Max. Observed MH: 25	Lower Limit: inability Indices Corrective Maintenance — (MTTR _{cm} :	All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 4.9 Max. Observed MH: 25	Lower Limit: inability Indices Corrective Maintenance — (MTTR _{cm} :	All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 4.9 Max. Observed MH: 25	Lower Limit: inability Indices Corrective Maintenance — (MTTR _{cm} :	All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 4.9 Max. Observed MH: 25 MCMM _f : 6.6	Lower Limit: inability Indices Corrective Maintenance — (MTTR _{cm} :	All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 4.9 Max. Observed MH: 25 MCMM _f : 6.6 Variance: 49.1	Lower Limit: inability Indices Corrective Maintenance — (MTTR _{cm} :	467 All Events) - 252

	lash Type
General Description: Distillation Unit	8000 GPD 472 Sq. Ft. 240 TB 2STG
CID/APL Number(s): 080030019	Federal Stock Number: 641-356
Equipment Identification Code: AE02000/T	'K03000
Technical Manual:None	
Manufacturer: 12793 Aqua Chem Inc	. Cleaver Brooks Div.
	Basic Data
	Equip. Population/Ship: 2 ea/DE; DEG
Equip. Population in Data Base:6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DE/S; A=0.60, B=0.1	O, C=0.00; DEG/S; A=0.75, B=0.30, C=0.0
Total Equip. Operating Time (hours):	34470
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):61
Total CMc Repair Man-Hours: 105	Total CM Repair Man-Hours:1874
Maintenance Factors:	57
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622	Mean Time Between Corrective Maintenance MTBCM: 565 90% Confidence Interval Upper Limit: 707 Lower Limit: 457
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622	MTBCM: 565 90% Confidence Interval Upper Limit: 707
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622 Mainta	MTBCM:565 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRs: 10.0	MTBCM: 565 90% Confidence Interval Upper Limit: 707 Lower Limit: 457 Lower Limit: 457 Lower Limit: 457 MTTR: 20.5
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.0 MCMM _f : 10.0	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.0 MCMM _f : 10.0 Max. Observed MH: 34	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.0 MCMM _f : 10.0	MTBCM:565 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.0 MCMM _f : 10.0 Max. Observed MH: 34 MCMM _f : 15.0	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4924 90% Confidence Interval Upper Limit: 10492 Lower Limit: 2622 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.0 MCMM _f : 10.0 Max. Observed MH: 34 MCMM _f : 15.0 Variance: 181	MTBCM:565 90% Confidence Interval

oun Name: Distilling Plant, LP Fl	12,000 GPD 768 Sq. Ft. 800 TB 2STG
DANI Number(s) 080030020	Federal Stock Number: 641-235
quipment Identification Code: AE02000/T	
quipment identification Code: ABO20007 1	
Cechnical Manual: 358-0377 Manufacturer: 12793 Aqua Chem Inc.	Cleaver Brooks Div
lanufacturer:12/95 Aqua offent file.	CICAVCI DIOCRA DIV.
	Basic Data
Ship Population: DDG 5, 6, 9, 14, 15,	16,* Equip. Population/Ship: 2 ea/DDG
Equip. Population in Data Base:18	Data Assessment Period: 7/1/67 - 6/30/69
Jtilization Factors: S; A=1.00, B=0.45,	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours):	163009
Total Number of: Failures (CM _f): 69	Corrective Maintenance Events (CM): 578
	Total CM Repair Man-Hours:15005
Maintanance Factors:	0.67
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 2363	Mean Time Between Corrective Maintenance MTBCM: 282
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2363 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 282 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2363 90% Confidence Interval Upper Limit: 2916	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:303
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2363 90% Confidence Interval Upper Limit: 2916	Mean Time Between Corrective Maintenance MTBCM: 282 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2363 90% Confidence Interval Upper Limit: 2916 Lower Limit: 1935	Mean Time Between Corrective Maintenance MTBCM: 282 90% Confidence Interval Upper Limit: 303 Lower Limit: 263
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2363 90% Confidence Interval Upper Limit: 2916 Lower Limit: 1935	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:303
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2363 90% Confidence Interval Upper Limit: 2916 Lower Limit: 1935	Mean Time Between Corrective Maintenance MTBCM: 282 90% Confidence Interval Upper Limit: 303 Lower Limit: 263
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2363 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 282 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MCMM _{cm} :

CID/APL Number(s): 080100011 Federal Stock Number: 1648-40-60 Equipment Identification Code: AE02000/TK03000 Technical Manual: 358-0336 Manufacturer: 80406 Bethlehem Steel Corp. Basic Data Ship Population: DD 937; DDG 31; AE 21, 22; Equip. Population/Ship: 2 ea/DD; DDG; AI Equip. Population in Data Base: 8 Data Assessment Period: 7/1/67 - 6/30/69 Utilization Factors: DD/S: A=0.83, B=0.50, C=0.00; DDG/S; A=1.00, B=0.45, C=0.00 Total Equip. Operating Time (hours): 62894 Total Number of: Failures (CMf): 38 Corrective Maintenance Events (CM): 180	General Description: Distillation Unit 1	2,000 GPD 345 Sq. Ft. 704 TB 2STG
Ship Population: DD 937; DDG 31; AE 21, 22; Equip. Population/Ship: 2 ea/DD; DDG; Al Equip. Population in Data Base: 8 Data Assessment Period: 7/1/67 - 6/30/65	CID/APL Number(s): 080100011	Federal Stock Number: 1648-40-60
Sasic Data Sasic Data	Equipment Identification Code: AE02000/TK	03000
Ship Population: DD 937; DDG 31; AE 21, 22; Equip. Population/Ship: 2 ea/DD; DDG; AI Equip. Population in Data Base: 8 Data Assessment Period: 7/1/67 - 6/30/69	Technical Manual: 358-0336	
Ship Population: DD 937; DDG 31; AE 21, 22; Equip. Population/Ship: 2 ea/DD; DDG; AE Equip. Population in Data Base: 8 Data Assessment Period: 7/1/67 - 6/30/65		cl Corp.
Ship Population: DD 937; DDG 31; AE 21, 22; Equip. Population/Ship: 2 ea/DD; DDG; AI Equip. Population in Data Base: 8 Data Assessment Period: 7/1/67 - 6/30/69 Utilization Factors: DDD/S: A=0.83, B=0.50, C=0.00; DDG/S; A=1.00, B=0.45, C=0.00 Total Equip. Operating Time (hours): 62894 Total Number of: Failures (CMf): 38 Corrective Maintenance Events (CM): 180 Total CMf Repair Man-Hours: 687 Total CM Repair Man-Hours: 4023 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Corrective Maintenance (Forced Shutdown Corrective Maintenance) MTBCMf: 1655 90% Confidence Interval Upper Limit: 2210 10pper Limit: 2210 10pper Limit: 397 10pper Limit: 397 10pper Limit: 397 10pper Limit: 309 Maintainability Indices Corrective Maintenance - (Forced Shutdown Failure Events Only) MTTRf: 12.0 MCMMf: 5.3 Max. Observed MH: 130 MCMMcm: 8.5 Max. Observed MH: 203 MCMMcm: 22.4 Variance: 1136		
Equip. Population in Data Base:	Ва	asic Data
Utilization Factors: DD/S: A=0.83, B=0.50, C=0.00; DDG/S; A=1.00, B=0.45, C=0.00	Ship Population: DD 937; DDG 31; AE 21,	22; Equip. Population/Ship: 2 ea/DD; DDG; AI
Total Equip. Operating Time (hours):	Equip. Population in Data Base:8	Data Assessment Period: 7/1/67 - 6/30/69
Total Number of: Failures (CMf): 38		
Total Number of: Failures (CMf): 38	Total Equip. Operating Time (hours): 628	94
Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Total Number of: Failures (CM _f):38	_ Corrective Maintenance Events (CM): 180
Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Total CMs Repair Man-Hours: 687	_ Total CM Repair Man-Hours: 4023
Mean Time Between Failure	_	67
Lower Limit:	Mean Time Between Failure	Mean Time Between Corrective Maintenance
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.0 MCMM _f : 5.3 Max. Observed MH: 130 MCMM _f : 18.1 Variance: 755 Variance: 1136 Corrective Maintenance — (All Events) MTTR _{cm} : 14.9 MCMM _{cm} : 8.5 Max. Observed MH: 203 MCMM _{cm} : 22.4 Variance: 1136	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1655 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval
Failure Events Only) MTTR _f : 12.0 MCMM _f : 5.3 Max. Observed MH: 130 MCMM _{cm} : 8.5 MCMM _{cm} : 203 MCMM _{cm} : 22.4 Variance: 755 Variance: 1136	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1655 90% Confidence Interval Upper Limit: 2210	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 397
MTTR _f : 12.0 MCMM _f : 5.3 Max. Observed MH: 130 MCMM _{cm} : 8.5 Max. Observed MH: 203 MCMM _f : 18.1 Variance: 755 Variance: 1136	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1655 90% Confidence Interval Upper Limit: 2210 Lower Limit: 1263	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 397 Lower Limit: 309
Max. Observed MH: 130 McMM _f : 18.1 Variance: 755 Variance: 1136 Max. Observed MH: 203 MCMM _{cm} : 22.4 Variance: 1136	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1655 90% Confidence Interval Upper Limit: 2210 Lower Limit: 1263 Maintair	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval
Max. Observed MH: 130 McMM _f : 18.1 Variance: 755 Variance: 1136 Max. Observed MH: 203 MCMM _{cm} : 22.4 Variance: 1136	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1655 90% Confidence Interval Upper Limit: 2210 Lower Limit: 1263 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 397 Lower Limit: 309 mability Indices Corrective Maintenance — (All Events)
MCMM _f : 18.1 MCMM _{cm} : 22.4 Variance: 1136	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1655 90% Confidence Interval Upper Limit: 2210 Lower Limit: 1263 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.0	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 397 Lower Limit: 309 mability Indices Corrective Maintenance — (All Events)
	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$: 1655 90% Confidence Interval Upper Limit: 2210 Lower Limit: 1263 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: 12.0 MCMM $_{\rm f}$: 5.3	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 397 Lower Limit: 309 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.9 MCMM _{cm} : 8.5
	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 397 Lower Limit: 309 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.9 MCMM _{cm} : 8.5 Max. Observed MH: 203
Indicated Distribution (s): Exponential Normal Log Normal	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1655 90% Confidence Interval Upper Limit: 2210 Lower Limit: 1263 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 12.0 MCMMf: 5.3 Max. Observed MH: 130 MCMMf: 18.1	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 397 Lower Limit: 309 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.9 MCMM _{cm} : 8.5 Max. Observed MH: 203
	Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1655 90% Confidence Interval Upper Limit: 2210 Lower Limit: 1263 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 12.0 MCMMf: 5.3 Max. Observed MH: 130 MCMMf: 18.1	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 397 Lower Limit: 309 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.9 MCMM _{cm} : 8.5 Max. Observed MH: 203

ARINC RESEARCH CORP ANNAPOLIS MD
ESTABLISHMENT OF RELIABILITY AND MAINTAINABILITY DATA BANK FOR --ETC(U)
MAR 73 E J LUTZ, D J HOFFMAN N00024-72-C-5388 AD-A054 500 UNCLASSIFIED OE13-01-1-1224-VOL-2 3 of **8**AD A054500

Noun Name: Distilling Plant, LP F	lash Type
	12,000 GPD 693 Sq. Ft. 704 TB 2STG
PD(ARI Number(s): 080100014	Federal Stock Number: AE-40-60
quipment Identification Code: AE0200	O /TKO 3000
	0/ INC 5000
echnical Manual: None 80406 Bethlehem St	and Corp
lanufacturer: 00400 Be officeriem Bo	eel colp.
В	sasic Data
Ship Population: AE 23, 25;	Equip. Population/Ship: 2 ea/AE; Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base: 4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00, B =	0.70, C = 0.0
Total Equip. Operating Time (hours):	46515
Total Number of: Failures (CM _e): 12	Corrective Maintenance Events (CM):39
	Total CM Repair Man-Hours: 743
Maintenance Factors:	67
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3876	MTBCM: 1192
90% Confidence Interval	90% Confidence Interval
Upper Limit: 6718	Upper Limit: 1586
Lower Limit: 2392	Lower Limit: 913
Maintai	inability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	10.7
MTTR _f : 13.0	MTTR _{cm} : 12.7 MCMM _{cm} : 16.0
MCMM _f : 5.6	Max. Observed MH:60
Max. Observed Mill.	MCMM _{cm} : 19.0
MCMM _f : 19.5 Variance: 438	Variance: 301
Variance: 438	Variation.
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	COLUMN TO THE PROPERTY OF THE PARTY OF THE P

Noun Name: Distilling Plant, L	P Flash Type
Conord Description. Distillation Un	it 12,000 GPD 567 Sq. Ft. 704 TB 2STG
CID/ADI Number(a), 080100016	Federal Stock Number: 1656-40-60
Equipment Identification Code: AE02	000/TK03000
Technical Manual: None	PACKET AND
Manufacturer: 80406 Bethlehem	Steel Corp.
	Basic Data
Ship Population: DLG 8, 14	Equip. Population/Ship: 2 ea/DIG Data Assessment Period: 7/1/67 - 6/30/6
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S; A=0.93, B=0.	43, C=0.00
Total Equip. Operating Time (hours):	34153
Total Number of: Failures (CMf): 16	Corrective Maintenance Events (CM): 110
	Total CM Repair Man-Hours: 2414
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 213 ⁴ 90% Confidence Interval Upper Limit: 3 ⁴ 03	Mean Time Between Corrective Maintenance MTBCM: 310 90% Confidence Interval Upper Limit: 366
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 213 ⁴ 90% Confidence Interval Upper Limit: 3 ⁴ 03 Lower Limit: 1 ⁴ 05	Mean Time Between Corrective Maintenance MTBCM: 310 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 213 ⁴ 90% Confidence Interval Upper Limit: 3 ⁴ 03 Lower Limit: 1 ⁴ 05	Mean Time Between Corrective Maintenance (xe) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 213 ⁴ 90% Confidence Interval Upper Limit: 3 ⁴ 03 Lower Limit: 1 ⁴ 05 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 310 90% Confidence Interval Upper Limit: 366 Lower Limit: 265 aintainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 213 ⁴ 90% Confidence Interval Upper Limit: 3 ⁴ 03 Lower Limit: 1405 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.8	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMf:	Mean Time Between Corrective Maintenance (x) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMf: 2134 90% Confidence Interval Upper Limit: 3403 Lower Limit: 1405 Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 5.8 MCMMf: 3.3 Max. Observed MH: 52	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMf:	Mean Time Between Corrective Maintenance (x) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:213\frac{1}{4} 90\% Confidence Interval Upper Limit:3403 Lower Limit:1405 Maintenance — (Forced Shutdown Failure Events Only) MTTRf:5.8 MCMMf:5.3 Max. Observed MH:52 MCMMf:8.7	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance MTBCM:

ioneral Decemention.	Distillation	Imit	12,000 GPD Sa. Ft.	501 772 200	ng.
			Federal Stock Number:		
Equipment Identificat				<u> </u>	
Technical Manual:			a section and section		
		hem St	teel Corp.		
Manufacturer.		mem be	occi coip.		
		E	Basic Data		
Ship Population: DLG	28, 29, 30,	31, 32	2, 33 Equip. Population	/Ship: 2 ea/D	LG;
Equip. Population in	Data Base:	12	Data Assessment F	Period: 7/1/67	- 6/30/6
Utilization Factors:	S; A=0.93,	B=0.43	3, C=0.00		
Total Equip. Operatin	g Time (hours):	11866	55		
Total Number of:	Failures (CM _f):	28	Corrective Maintenance	Events (CM):	194
Total CM _f Repair Mar	n-Hours: 35	4	Total CM Repair Man-F	iours: 6	332
Maintenance Factors:			67		
	Failure vn Corrective Mainte		Mean Time Between Co	orrective Mainten	ance
	vn Corrective Mainte		Mean Time Between Co	of Shediguele to	ance and M
(Forced Shutdow MTBCM _f : 4238 90% Confidence	Interval		Mean Time Between Co MTBCM: 611 90% Confidence In	nterval	ance
(Forced Shutdov MTBCM _f : 4238 90% Confidence Upper Limi	Interval		Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit:	iterval 691	ance and A
(Forced Shutdow MTBCM _f : 4238 90% Confidence	Interval		Mean Time Between Co MTBCM: 611 90% Confidence In	iterval 691	ance
(Forced Shutdow MTBCM _f : 4238 90% Confidence Upper Limit	Interval	enance)	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit:	iterval 691	ance
(Forced Shutdow MTBCM _f : 4238 90% Confidence Upper Limit	Interval t: 5963 t: 3091	enance)	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit: Lower Limit: inability Indices	691 543	ance stalk
(Forced Shutdow MTBCMf: 4238 90% Confidence Upper Limi Lower Limi Corrective Maintenance Failure Events Only	Interval t: 5963 it: 3091	enance)	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit: Lower Limit: inability Indices Corrective Maintenance	691 543	ance
(Forced Shutdow MTBCMf: 4238 90% Confidence Upper Limi Lower Limi Corrective Maintenance Failure Events Only MTTRf: 8.4	Interval t: 5963 it: 3091	enance)	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit: Lower Limit: inability Indices Corrective Maintenance MTTR _{cm} : 21.9	691 543	ance stalk
(Forced Shutdow MTBCMf: 4238 90% Confidence Upper Limi Lower Limi Corrective Maintenance Failure Events Only	Interval t: 5963 it: 3091 ce — (Forced Shutdow)	enance)	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit: Lower Limit: inability Indices Corrective Maintenance MTTR _{cm} : 21.9 MCMM _{cm} : 12.0	691 543 — (All Events)	ance
(Forced Shutdow MTBCMf: 4238 90% Confidence Upper Limi Lower Limi Corrective Maintenance Failure Events Only MTTRf: 8.4 MCMMf: 7.2 Max. Observed M	Interval t: 5963 it: 3091 See — (Forced Shutdo	enance)	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit: Lower Limit: inability Indices Corrective Maintenance MTTR _{cm} : 21.9 MCMM _{cm} : 12.0 Max. Observed MH	691 543 — (All Events)	Ince and A
(Forced Shutdow MTBCMf: 4238 90% Confidence Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTRf: 8.4 MCMMf: 7.2 Max. Observed M MCMMf: 12.7	Interval t: 5963 t: 3091 See — (Forced Shutdow)	enance)	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit: Lower Limit: inability Indices Corrective Maintenance MTTR _{cm} : 21.9 MCMM _{cm} : 12.0 Max. Observed MH MCMM _{cm} : 32.8	691 543 - (All Events)	ance and a second
(Forced Shutdow MTBCMf: 4238 90% Confidence Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTRf: 8.4 MCMMf: 7.2 Max. Observed M MCMMf: 12.7	Interval t: 5963 it: 3091 See — (Forced Shutdo	enance)	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit: Lower Limit: inability Indices Corrective Maintenance MTTR _{cm} : 21.9 MCMM _{cm} : 12.0 Max. Observed MH	691 543 - (All Events)	Ince and A
(Forced Shutdow MTBCMf: 4238 90% Confidence Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTRf: 8.4 MCMMf: 7.2 Max. Observed M MCMMf: 12.7	Interval t: 5963 it: 3091 See — (Forced Shutdo	enance) Maintai	Mean Time Between Co MTBCM: 611 90% Confidence In Upper Limit: Lower Limit: inability Indices Corrective Maintenance MTTR _{cm} : 21.9 MCMM _{cm} : 12.0 Max. Observed MH MCMM _{cm} : 32.8	691 543 — (All Events) — 394	ance

n/Ship: 2 ea/DEG; Period: 7/1/67 - 6/:
se Events (CM): 22
Evente (CM). 22
e Events (CM).
-Hours:327
and the second
Interval
1262
t:598
e - (All Events)
or to Orani mark and an
IH:68
100
100
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Noun Name: Distilling Plan	
eneral Description:Distillati	on Unit 10,000 GPD 112 Sq. Ft. 2STG
CID/APL Number(s): 080110002	Federal Stock Number:B-1754 AE01000/TK01000
Equipment Identification Code:	AE01000/TK01000
rechnical Manual: 358-0307	The state of the s
Manufacturer: 39004 Ameri	can Machine & Foundry Co. Maxim Div.
Ship Population: DE 1021, 1022,	Basic Data 1027, 1028, * Equip. Population/Ship: 1 ea/DE; Data Assessment Period: 7/1/67 - 6/30/6
Equip. Population in Data Base:	5 Data Assessment Period: 7/1/67 - 6/30/6 B=0.45; C=0.0
Utilization Factors: S. H. C. S.	25798
Total Number of Failures (CM-)	20 Corrective Maintenance Events (CM): 152
Total CM _f Repair Man-Hours: Maintenance Factors:	322 Total CM Repair Man-Hours: 3927
(Forced Shutdown Corrective Main	
MTBCM _f : 1289 90% Confidence Interval Upper Limit: 1946	Mean Time Between Corrective Maintenance ntenance) MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1289 90% Confidence Interval Upper Limit: 1946 Lower Limit: 888	Mean Time Between Corrective Maintenance MTBCM: 169 90% Confidence Interval Upper Limit: 195 Lower Limit: 148 Maintainability Indices
(Forced Shutdown Corrective Main MTBCM _f : 1289 90% Confidence Interval Upper Limit: 1946 Lower Limit: 888 Corrective Maintenance — (Forced Shut	Mean Time Between Corrective Maintenance MTBCM: 169 90% Confidence Interval Upper Limit: 195 Lower Limit: 148 Maintainability Indices
(Forced Shutdown Corrective Main MTBCM _f : 1289 90% Confidence Interval Upper Limit: 1946 Lower Limit: 888 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _e : 10.7	Mean Time Between Corrective Maintenance MTBCM: 169 90% Confidence Interval Upper Limit: 195 Lower Limit: 148 Maintainability Indices MTTRom: 17-3
(Forced Shutdown Corrective Main MTBCM _f : 1289 90% Confidence Interval Upper Limit: 1946 Lower Limit: 888 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 10.7 MCMM _f : 3.5	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1289 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1289 90% Confidence Interval Upper Limit: 1946 Lower Limit: 888 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 10.7 MCMM _f : 3.5 Max. Observed MH: 128 MCMM _f : 16.1	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1289 90% Confidence Interval Upper Limit: 1946 Lower Limit: 888 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 10.7 MCMM _f : 3.5 Max. Observed MH: 128	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1289 90% Confidence Interval Upper Limit: 1946 Lower Limit: 888 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 10.7 MCMM _f : 3.5 Max. Observed MH: 128 MCMM _f : 16.1	Mean Time Between Corrective Maintenance MTBCM:

General Description	Distillation	n Unit 8000 GPD 120 Sq. Ft. 1STG
CID/APL Number(s):	080110011	Federal Stock Number: BE-3109
Equipment Identificat	tion Code:	AE01000/TK01000
Technical Manual:	358-0357	
		an Machine & Foundry Co. Maxim Div.
Manufacturer:		
		Basic Data
		601, 602; * Equip. Population/Ship: 1 ea/SSBN;
Equip. Population in	Data Base:	5 Data Assessment Period: 7/1/67 - 6/3 A=0.65; B=0.0; C=0.0
Total Equip. Operatir	ng Time (hours):	35511 22 Corrective Maintenance Events (CM): 154
		Total CM Repair Man-Hours: 1540
Maintenance Factors:		0.67
202 1 214 V 1 22 22 22 20 20 20 20 20 20 20 20 20 20	Failure wn Corrective Maint	
MTBCM _f :1614	wn Corrective Mainte	Mean Time Between Corrective Maintenance enance) MTBCM: 230
(Forced Shutdov MTBCM _f : 1614 90% Confidence	wn Corrective Mainte	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdov MTBCM _f : 1614 90% Confidence Upper Limi	Interval	Mean Time Between Corrective Maintenance enance) MTBCM: 230 90% Confidence Interval Upper Limit: 265
(Forced Shutdov MTBCM _f : 1614 90% Confidence	Interval	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdov MTBCM _f : 1614 90% Confidence Upper Limi	Interval	Mean Time Between Corrective Maintenance enance) MTBCM: 230 90% Confidence Interval Upper Limit: 265
(Forced Shutdov MTBCM _f : 1614 90% Confidence Upper Limi	Interval it: 2384 it: 1130	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdov MTBCMf: 1614 90% Confidence Upper Limi Lower Lim Corrective Maintenance Failure Events Onl	Interval it: 2384 it: 1130 ce - (Forced Shutdow)	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdov MTBCMf: 1614 90% Confidence Upper Limi Lower Lim Corrective Maintenance Failure Events Onl MTTRf: 8.8	Interval it: 2384 it: 1130	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdov MTBCM _f : 1614 90% Confidence Upper Limi Lower Lim Corrective Maintenance Failure Events Onl MTTR _f : 8.8 MCMM _f : 2.3	Interval it: 2384 it: 1130 ce - (Forced Shutdown)	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown MTBCMf: 1614 90% Confidence Upper Limit Lower Lim Corrective Maintenance Failure Events Onl MTTRf: 8.8 MCMMf: 2.3 Max. Observed Max.	Interval it: 2384 it: 1130 ce - (Forced Shutdony)	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdov MTBCMf: 1614 90% Confidence Upper Limi Lower Lim Corrective Maintenance Failure Events Onl MTTRf: 8.8 MCMMf: 2.3 Max. Observed M MCMMf: 13.1	Interval it: 2384 it: 1130 ce - (Forced Shutdoy) MH: 130	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown MTBCMf: 1614 90% Confidence Upper Limit Lower Lim Corrective Maintenance Failure Events Onl MTTRf: 8.8 MCMMf: 2.3 Max. Observed Max.	Interval it: 2384 it: 1130 ce - (Forced Shutdoy) MH: 130	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdov MTBCMf: 1614 90% Confidence Upper Limi Lower Lim Corrective Maintenance Failure Events Onl MTTRf: 8.8 MCMMf: 2.3 Max. Observed M MCMMf: 13.1	Interval it: 2384 it: 1130 ce - (Forced Shutdony)	Mean Time Between Corrective Maintenance enance) MTBCM:

Noun Name: Distilling Plant, LP Ve	rtical Basket Types
General Description: Distillation Unit	8000 GPD 120 Sq. Ft. 1STG
CID/APL Number(s): 080110012	Federal Stock Number: BE-3528
Equipment Identification Code:AEO	1000/TK01000
rechnical Manual: 358-0369	
Manufacturer: 39004 American Machi	ne & Foundry Co. Maxim Div.
	Sasic Data
Ship Population: SSN 588, 594, 604, 60	5, 606 Equip. Population/Ship: 1 ea/SSN; SSBN
Equip. Population in Data Base: 6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: SSBN/SSN - S: A=0.6	5; B=0.0; C=0.0
Total Equip. Operating Time (hours): 276	638
Total Number of: Failures (CM _f): 29	Corrective Maintenance Events (CM):148
	Total CM Repair Man-Hours:2251
Total Civis Itepati Mail-Hours.	10tal CM Repair Mail-110tals
Maintenance Factors: Relia Mean Time Between Failure	bility Indices Mean Time Between Corrective Maintenance
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	bility Indices Mean Time Between Corrective Maintenance
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 953	bility Indices Mean Time Between Corrective Maintenance MTBCM:186
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 953 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 186 90% Confidence Interval Upper Limit: 215
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 953	Mean Time Between Corrective Maintenance MTBCM: 186 90% Confidence Interval
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 953 90% Confidence Interval Upper Limit: 1332 Lower Limit: 699 Maintai	Mean Time Between Corrective Maintenance MTBCM:
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 953 90% Confidence Interval Upper Limit: 1332 Lower Limit: 699 Maintai Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM:
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 953 90% Confidence Interval Upper Limit: 1332 Lower Limit: 699 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 953 90% Confidence Interval Upper Limit: 1332 Lower Limit: 699 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 9.0	Mean Time Between Corrective Maintenance MTBCM:
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 953 90% Confidence Interval Upper Limit: 1332 Lower Limit: 699 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 9.0 MCMMf: 4.0	Mean Time Between Corrective Maintenance MTBCM:
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance MTBCM:186
Maintenance Factors: Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 953 90% Confidence Interval Upper Limit: 1332 Lower Limit: 699 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 9.0 MCMMf: 4.0	Mean Time Between Corrective Maintenance MTBCM:

CID/APL Number(s): 080110024	Federal Stock Number: 115014H2110BAND210
Equipment Identification Code: AE01000	/TK01000
Technical Manual: 358-0246	and the state of t
Manufacturer: 39004 American Machi	ine & Foundry Co. Maxim Div.
Ship Population: SSBN 640, 641, 642, 6	Basic Data 643,* Equip. Population/Ship: 1 ea/SSBN; Data Assessment Period: 7/1/67 - 6/30/
Utilization Factors: SSBN/SSN - S: A=0.6	
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM): 324
and the second s	Total CM Repair Man-Hours:5493
Maintenance Factors:	.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2148	Mean Time Between Corrective Maintenance MTBCM: 271 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2148 90% Confidence Interval Upper Limit: 2836 Lower Limit: 1656	Mean Time Between Corrective Maintenance MTBCM: 271 90% Confidence Interval Upper Limit: 299
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2148 90% Confidence Interval Upper Limit: 2836 Lower Limit: 1656 Mainta	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2148 90% Confidence Interval Upper Limit: 2836 Lower Limit: 1656	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2148 90% Confidence Interval Upper Limit: 2836 Lower Limit: 1656 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.0	Mean Time Between Corrective Maintenance MTBCM: 271 90% Confidence Interval Upper Limit: 299 Lower Limit: 248 Lower Limit: 11.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2148 90% Confidence Interval Upper Limit: 2836 Lower Limit: 1656 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.0 MCMM _f : 4.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:2148 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:2148 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:

Joun Name: Distilling Plant, Va	apor Compression
eneral Description: Distillation Uni	it 2400 GPD
ID/APL Number(s): 080110031	Federal Stock Number: 90762-01
quipment Identification Code: AEO	3000/TK04000
echnical Manual: 0958-006-4010	
lanufacturer: 39004 American Ma	achine & Foundry Co. Maxim Div.
,	Basic Data
thip Population: ATF 156, 162, 163	Equip. Population/Ship: 2 ea/ATF Data Assessment Period: 7/1/67 - 6/30/69
quip. Population in Data Base:6	Data Assessment Period: 7/1/67 - 6/30/69
tilization Factors: S; A=0.40, B=0.00	O, C=0.00
otal Equip. Operating Time (hours):	11427
	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:128	Total CM Repair Man-Hours:1808
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 879 90% Confidence Interval	Mean Time Between Corrective Maintenance e) MTBCM: 90% Confidence Interval Upper Limit:239
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :879	Mean Time Between Corrective Maintenance e) MTBCM: 190 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 879 90% Confidence Interval Upper Limit: 1486 Lower Limit: 553	Mean Time Between Corrective Maintenance e) MTBCM: 90% Confidence Interval Upper Limit:239
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance e) MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 879 90% Confidence Interval Upper Limit: 1486 Lower Limit: 553 Mac Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance e) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 90% Confidence Interval Upper Limit:1486 Lower Limit:553 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.6 MCMM _f :3.0	Mean Time Between Corrective Maintenance e) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance e) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance e) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance e) MTBCM: 190 90% Confidence Interval Upper Limit: 239 Lower Limit: 154 Lower Limit: 154 intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 20.1 MCMM _{cm} : 5.0 Max. Observed MH: 170 MCMM _{cm} : 30.1 Variance: 2249
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 879 90% Confidence Interval Upper Limit: 1486 Lower Limit: 553 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.6 MCMM _f : 3.0 Max. Observed MH: 80 MCMM _f : 9.8	Mean Time Between Corrective Maintenance e) MTBCM: 190 90% Confidence Interval Upper Limit: 239 Lower Limit: 154 intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 20.1 MCMM _{cm} : 5.0 Max. Observed MH: 170 MCMM _{cm} : 30.1 Variance: 2249

Noun Name: Distilling Plant, LP Fla		
General Description: Distillation Unit	20000 GPD 402 Sq. Ft.	642 TB 2STG
CID/APL Number(s): 080700022	_ Federal Stock Number: _EE-	15-1
Equipment Identification Code: AE02000	O/TK03000	
Technical Manual: 358-0312		
Manufacturer: 90627 Baldwin-Lima-Ha	amilton Corp.	
B.	asic Data	
Ship Population: LSD 28, 29, 30, 31, 32	Equip. Population/Ship:	2 ea/LSD;
Ship Population: LSD 28, 29, 30, 31, 32 Equip. Population in Data Base: 16	Data Assessment Period:	7/1/67 - 6/30/69
Utilization Factors: S: A=0.73; B=0.23;	C=0.0	
Total Equip. Operating Time (hours):	84430	
Total Number of: Failures (CM _f): 12	Corrective Maintenance Events	(CM): 61
Total CM _f Repair Man-Hours: 163	Total CM Repair Man-Hours:	1132
Maintenance Factors: 0.6	7	
90% Confidence Interval Upper Limit: 12194	MTBCM: 1384 90% Confidence Interval Upper Limit:	1732
Lower Limit: 4342	Lower Limit:	1118
Maintai	nability Indices	
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance - (All	Events)
Failure Events Only)		
MTTR _f : 9.0	MTTR _{cm} : 12.4	
MCMM _f : 3.2	MCMM _{cm} : 6.0	The same
Max. Observed MH: 110	Max. Observed MH:	226
MCMM _f :13.6	MCMM _{cm} : 18.6	
Variance: 947	Variance: 1635	
Indicated Distribution(s): Exponential	Normal	Log Normal X
*REMARKS:*33, 34, 35		

Noun Name: Distilling Plant, LP Flash	n Type
General Description: Distillation Unit 12	
	Federal Stock Number: EE-95-1
Equipment Identification Code: AE02000/TKO	ROOO
Technical Manual: 358-0324	
1echnical Manual:	amilton Com
Manufacturer: 90627 Baldwin Lima-Ha	amilton corp.
	ic Data
Ship Population: DD 940, 941, 942, 946,	Equip. Population/Ship: 2 ea/DD; Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S; A=0.83, B=0.50, (C=0.00
Total Equip. Operating Time (hours):	100254
	Corrective Maintenance Events (CM):311
Total CMc Renair Man-Hours: 502	Total CM Repair Man-Hours: 7973
Maintenance Factors: 0.6	7
Reliabi	lity Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2709	Mean Time Between Corrective Maintenance MTBCM: 322
90% Confidence Interval	90% Confidence Interval
Upper Limit:3633	Upper Limit: 355
Lower Limit: 2060	Lower Limit: 293
Maintaine	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 8.6	MTTR _{cm} :17.1
MCMM _f : 8.5	MCMM _{cm} : 10.0
Max. Observed MH: 80	Max. Observed MH: 531
MCMM _f : 12.9	MCMM _{cm} : 25.6
Variance: 236	Variance: 2631
validite.	
Indicated Distribution(s): Exponential	Normal Log Normal _X
*REMARKS: *948, 950, 951	

C 15 11 Di-+177-11 11 11 16	lash Type
	2,000 GPD 580 Sq. Ft. 710 TB 2STG
CID/APL Number(s): 080700066	Federal Stock Number: EE-265-1 Rev. 3
Equipment Identification Code: AE02000/TKC	03000
Technical Manual: None	
Manufacturer: 90627 Baldwin-Lima-Hami	ilton Corp.
	sic Data
Ship Population: DDG 2, 1, 0, 11, 12, 13	Equip. Population/Ship: 2 ea/DDG; Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S; A=1.00, B=0.45, C	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM): 184
Total CM _f Repair Man-Hours: 330	Total CM Repair Man-Hours: 4364
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 4157 90% Confidence Interval Upper Limit: 5891 Lower Limit: 3015	MTBCM: 610 90% Confidence Interval Upper Limit: 692 Lower Limit: 540
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 8.2	MTTR _{cm} : 15.8
MCMM _f : 4.0	MCMM _{cm} :
Max. Observed MH: 72	Max. Observed MH: 474
MCMM _f :12.2 Variance:373	MCMM _{cm} : 23.7 Variance: 2282
Indicated Distribution(s): Exponential	Normal Log Normal _X
indicated Distribution (s). Exponential	The second secon

maral Description. Die	tillation Unit	12,000 GPD 551 Sq. Ft. 674 TB
D/API Number(s): 080	700068	Federal Stock Number: E-6241
ID/APL Number(s): 080 quipment Identification Co	AFO2	POOD /TKO3000
echnical Manual: 358	ode:	000/ IROJ000
fanufacturer: 90627		lemilton Corn
nanuracturer:	Darawill Dina II	difference of the second of th
	D	asic Data
Ship Population: DLG 1	.8, 19, 22, 23	Equip. Population/Ship: 2 ea/DLG; Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data B	Base:8	Data Assessment Period: 7/1/67 - 6/30/69
		C=0.00
Total Equip. Operating Time		
Total Number of: Failure	es (CM _f): 15	Corrective Maintenance Events (CM):89
Total CM, Repair Man-Hour	rs:117	Total CM Repair Man-Hours:
Maintenance Factors:	0.6	7
(Forced Shutdown Cor	rective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 797
(Forced Shutdown Cor	rective Maintenance) al	
MTBCM _f : 4733 90% Confidence Intervention Upper Limit:	rective Maintenance) al 7679 3074	Mean Time Between Corrective Maintenance MTBCM: 797 90% Confidence Interval Upper Limit: 959
(Forced Shutdown Cor MTBCM _f : 4733 90% Confidence Interve Upper Limit: Lower Limit:	rective Maintenance) 7679 3074 Maintai	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
(Forced Shutdown Cor MTBCM _f : 4733 90% Confidence Intervention Upper Limit: 4733	rective Maintenance) 7679 3074 Maintai	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:959 Lower Limit:669
(Forced Shutdown Cor MTBCM _f : 4733 90% Confidence Intervi- Upper Limit: Lower Limit: Corrective Maintenance — (F	rective Maintenance) 7679 3074 Maintai	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Cor MTBCM _f : 4733 90% Confidence Interview Upper Limit: Lower Limit: Corrective Maintenance — (Forcetive Maintenance — (Forcet	rective Maintenance) al 7679 3074 Maintai	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Cor MTBCM _f : 4733 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 5.2 MCMM _f : 4.1 Max. Observed MH:	rective Maintenance) 7679 3074 Maintai	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Cor MTBCM _f : 4733 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 5.2 MCMM _f : 4.1 Max. Observed MH: MCMM _e : 7.8	rective Maintenance) al 7679 3074 Maintai	MCMM _{cm} :
(Forced Shutdown Cor MTBCM _f : 4733 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (F Failure Events Only) MTTR _f : 5.2 MCMM _f : 4.1 Max. Observed MH:	rective Maintenance) al 7679 3074 Maintai	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Cor MTBCM _f : 4733 90% Confidence Intervible Upper Limit: Lower Limit: Lower Limit: Lower Limit: Maintenance — (Figure Events Only) MTTR _f : 5.2 MCMM _f : 4.1 Max. Observed MH: Max. Observed MH: 4.6 MCMM _f : 7.8	rective Maintenance) al 7679 3074 Maintai	MCMM _{cm} :

8000 GPD 96 Sq. Ft. 96 TB Federal Stock Number: EEE 7652 Rev. B
)/TK01000
Mamilton Corp Industrial Equip. Di
sic Data
22 # 1 ap/ggpN
33,* Equip. Population/Ship: 1 ea/SSBN
Data Assessment Period: 7/1/67 - 6/30/6
49254
_ Corrective Maintenance Events (CM):203
_ Total CM Repair Man-Hours:2773
,
MTBCM: 242 90% Confidence Interval Upper Limit: 273 Lower Limit: 216
ability Indices
Corrective Maintenance — (All Events)
MTTR _{cm} : 9.1
MCMM _{cm} : 4.7
Max. Observed MH:139
MCMM _{cm} : 13.7 Variance: 551
Variance: 551
1

oun Name:Distill		
eneral Description: Dis	stillation Unit	12,000 GPD 2STG
ID/APL Number(s):	780007	Federal Stock Number: E8202
quipment Identification Co	ode:AE020	000/TK03000
Manufacturer: 9062	27 Baldwin-Lima-	-Hamilton Corp.
		Basic Data
Ship Population: AFS	1, 2;	Equip. Population/Ship: 2 ea/AFS; Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data I	Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: Si	A=1.00, B=0.70	, C=0.00
Total Equip. Operating Tim	ne (hours):5	0527
Total Number of: Failur	es (CM _f):16	Corrective Maintenance Events (CM): 123
Total CMe Repair Man-Hou	rs:145	Total CM Repair Man-Hours:2267
Maintenance Factors:	0.67	
(Forced Shutdown Con	e rrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 410
(Forced Shutdown Con MTBCM _f : 3157 90% Confidence Interv Upper Limit:	rrective Maintenance) val 5035	Mean Time Between Corrective Maintenance MTBCM: 410 90% Confidence Interval Upper Limit: 480
(Forced Shutdown Con MTBCM _f : 3157 90% Confidence Interv	rrective Maintenance) val 5035	Mean Time Between Corrective Maintenance MTBCM: 410 90% Confidence Interval
(Forced Shutdown Con MTBCM _f : 3157 90% Confidence Interv Upper Limit:	rrective Maintenance) val 5035 2079	Mean Time Between Corrective Maintenance MTBCM: 410 90% Confidence Interval Upper Limit: 480
(Forced Shutdown Con MTBCM _f :3157 90% Confidence Interv Upper Limit: Lower Limit:	rrective Maintenance) val 5035 2079 Mainta	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Condition of Shutdown Condition of Shutdown Condition of Shutdown Confidence Interval Upper Limit:	rrective Maintenance) val 5035 2079 Mainta	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Condition of Shutdown Condition of Shutdown Condition of Shutdown Confidence Interval Upper Limit:	rrective Maintenance) val 5035 2079 Mainta	Mean Time Between Corrective Maintenance MTBCM: 410 90% Confidence Interval Upper Limit: 480 Lower Limit: 354 Lower Limit: 480 Lower Limit: 12.3
(Forced Shutdown Condition of Shutdown Condition of Shutdown Condition of Shutdown Confidence Interval of Shutdown Limit:	rrective Maintenance) val 5035 2079 Mainta Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Continued of Shutdown Continued Shutdown Continued Shutdown Continued Shutdown Confidence Intervolution Lower Limit:	rrective Maintenance) val 5035 2079 Mainta Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Condition of Control of Confidence Intervented Lower Limit:	rrective Maintenance) val 5035 2079 Mainta Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 410 90% Confidence Interval Upper Limit: 480 Lower Limit: 354 Lower Limit: 480 Lower Limit: 480
(Forced Shutdown Constitution of the Constitution of the Constitution of the Corrective Maintenance — (Failure Events Only) MTTR _f : 6.0 MCMM _f : 7.8 Max. Observed MH:	rrective Maintenance) val 5035 2079 Mainta Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Condition of Control of Confidence Intervented Lower Limit:	rrective Maintenance) val 5035 2079 Mainta Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 410 90% Confidence Interval Upper Limit: 480 Lower Limit: 354 Lower Limit: 480 Lower Limit: 480
MTBCM _f : 3157 90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f : 6.0 MCMM _f : 7.8 Max. Observed MH: MCMM _f : 9.1 Variance: 94.0	rrective Maintenance) val 5035 2079 Mainta Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM:

General Description: Generator AC 4	50V 1000 KW 1200 RPM
	Federal Stock Number: None Dwg-05-505-759
Equipment Identification Code:PA010	00/3100100
Technical Manual: 361-1702	to the 38 hard and the second
Manufacturer: 92392 Allis Chalmers Mg	r. Co. West Allis Plant - Milwaukee
Bas	ic Data
or: p DIG 22 18 10 20 22.	D . D . Li . Mr II oo /DI C.
	Equip. Population/Ship: 4 ea/DLG:
	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours): 83869	= 0.25; C = 0.00;
	Corrective Maintenance Events (CM):18
	Total CM Repair Man-Hours: 139
Maintenance Factors:0.67	TBD Company of the Co
Reliabil Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935	Mean Time Between Corrective Maintenance MTBCM: 4659
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval Upper Limit: 7205
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval Upper Limit: 7205
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308 Maintains	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval Upper Limit: 7205 Lower Limit: 3142
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308 Maintains Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval Upper Limit: 7205 Lower Limit: 3142 Ability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308 Maintains Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval Upper Limit: 7205 Lower Limit: 3142 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308 Maintains Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3 MCMM _f : 2.0	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval Upper Limit: 7205 Lower Limit: 3142 Ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2 MCMM _{cm} : 4.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308 Maintains Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3 MCMM _f : 2.0 Max. Observed MH: 2	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval Upper Limit: 7205 Lower Limit: 3142 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2 MCMM _{cm} : 4.0 Max. Observed MH: 48
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308 Maintains Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3 MCMM _f : 2.0 Max. Observed MH: 2 MCMM _f : 2.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308 Maintains Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3 MCMM _f : 2.0 Max. Observed MH: 2	Mean Time Between Corrective Maintenance MTBCM: 4659 90% Confidence Interval Upper Limit: 7205 Lower Limit: 3142 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2 MCMM _{cm} : 4.0 Max. Observed MH: 48
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 41935 90% Confidence Interval Upper Limit: 232969 Lower Limit: 13308 Maintains Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3 MCMM _f : 2.0 Max. Observed MH: 2 MCMM _f : 2.0	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: _Generator, M/G Set-400	Hertz
General Description: Generator AC	
	Federal Stock Number: 1H0000CC68089
Equipment Identification Code: QD030	
Technical Manual: 363-0543	
Manufacturer: 14237 Continental Elec	etric Co. Inc.
Ship Population: DE 1006, 1014, 1028, 103	Basic Data Compared to the second se
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DE-S; A = 1.00; B =	
Total Equip. Operating Time (hours): 45487	12
보이 없는 사람이 많아 있는 사람들이 되었다. 그렇게 되는 사람들은 그렇게 되었다면 하나 없었다.	Corrective Maintenance Events (CM):12
Total CM _f Repair Man-Hours: 27	Total CM Repair Man-Hours:75
Maintenance Factors: 0.67	
MTBCM _f :	MTBCM:3791 90% Confidence Interval Upper Limit:6563 Lower Limit:2340
Mainte	ainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	ratar) utanati munica
MTTR _f : 4.5	MTTR _{cm} : 4.2
MCMM _f : 2.5	MCMM _{cm} :
Max. Observed MH:20	Max. Observed MH: 20
MCMMf.	MCMM _{cm} : 6.3
Variance: 18	Variance: 42
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: **Reliability indices of 933-02-3-1153, dated December 1	developed for ARINC Research Publication

Noun Name: Generator, AC,	SS Diesel	Electric
	erator AC	
CID/APL Number(s): 1613	220011	Federal Stock Number: None (NO-N-1071706)*(
Equipment Identification Code:	PE	01000/3101000
Technical Manual: 361.	-1351	English to the second s
	ducts Div.	of General Motors Corp.
	Posis	c Data
Ship Population: MSO 426, 432	, 435* (1)	Equip. Population/Ship: 1 ea/MSO
Equip. Population in Data Base:	8	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: A	0.07, D - C).00; C = 0.00
Total Equip. Operating Time (hours):	400	01
Total Number of: Failures (CM _f):_	0	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	45 30 100	Total CM Repair Man-Hours:
Maintenance Factors:		
(Forced Shutdown Corrective Ma	intenanœ)	5790* (3)
MTBCM _f : 5790* (3)		MTBCM: 5790* (3)
90% Confidence Interval		90% Confidence Interval
Upper Limit:		Upper Limit:
Lower Limit:		Lower Limit:
	Maintainal	bility Indices
Corrective Maintenance - (Forced Shu	tdown	Corrective Maintenance — (All Events)
Failure Events Only)		Salam Rena Calvi
MTTR _f :		MTTR _{cm} :
MCMM _f :		MCMM _{cm} :
Max. Observed MH:		Max. Observed MH:
MCMM _f :		MCMM _{cm} :
Variance:		Variance:
Indicated Distribution(s): Exponent	tial	Normal Log Normal
equipment operate time du	uring this	56; (2) ID-I-993; (3) Maximum observe study was 587 hours. **Reliability
	INC Research	ch Publication 933-02-3-1153, dated
December 1971	2-	205

Noun Name: Generator, AC, SS Diesel Electric
General Description. Generator AC 450V 100 KW 1800 RPM
CID/ADI Number(s). 101220010 Federal Stock Number.
Equipment Identification Code: PE01000/3101000
Technical Manual: 301-1022 and 301-1071
Manufacturer: 72560 Delco Products Div. of General Motors Corp.
Basic Data
Ship Population: MSO 426, 432, 435, 437,*(1) Equip. Population/Ship: 1 ea/MSO Equip. Population in Data Base: 12 Data Assessment Period: 7/1/67 - 6/30/69 Utilization Factors: MSO-S: A = 0.07; B = 0.00; C = 0.00
Equip. Population in Data Base: 12 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: MSO-S: A = 0.07; B = 0.00; C = 0.00
Total Fauin Operating Time (house): 10055
Total Number of: Failures (CM _f):
Total CM _f Repair Man-Hours: Total CM Repair Man-Hours:
Maintenance Factors:
Waintenance Factors.
Reliability Indices**
Renability indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) Mean Time Between Corrective Maintenance
MTBCM _f : 24100* (2) MTBCM: 24100* (2)
90% Confidence Interval 90% Confidence Interval
Upper Limit: Upper Limit:
Lower Limit:
Market Land Britain To Alican
Maintainability Indices
Corrective Maintenance — (Forced Shutdown Corrective Maintenance — (All Events)
Failure Events Only)
MTTR _f :
MCMM _{cm} :
Max. Observed MH:
MCMM _f :
Variance: Variance:
Indicated Distribution(s): Exponential Normal Log Normal
*REMARKS: (1) 444, 448, 455, 466, 488, 490, 491, 508; (2) Maximum ob-
served equipment operate time during this study was 587 hours. **Reli-
ability indices developed for ARINC Research Publication 933-02-3-1153,
antitely indices developed for witho begen in inditioning and anti-

Noun Name: Generator, AC, SSTG S	
	AC 450V 1500 KW 1200 RPM
CID/APL Number(s): 161280013	Federal Stock Number: 1H0000CD74763
Equipment Identification Code: PA	A01000/310C100
Manufacturer: 19899 Electric Machine	ery Mfg. Co.
	Basic Data
Ship Population: DLG 29, 30, 31, 33	Equip. Population/Ship: 4
	Data Assessment Period: 7/1/67 - 6/30/69
	= 0.25; C = 0.00
Total Equip. Operating Time (hours):73	
이 보다 나는 사람들이 되는 것이 없다. 그는 사람들이 되었다면 보다 하는 것이 없는 것이 없는 것이 없는 것이 없는 것이다.	Corrective Maintenance Events (CM):7
Total CM. Repair Man-Hours: 7	Total CM Repair Man-Hours: 48
	67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 36929 90% Confidence Interval Upper Limit: 205161 Lower Limit: 11719	MTBCM: 10551 90% Confidence Interval
Maint	tainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Facilities Science Online
MTTR _f : 2.3	MTTR _{cm} : 4.5 MCMM-: 4.0
MCMM _f :3.5	cm
Max. Observed MH:4	Max. Observed MH:15
Wariance:5	Wariance: 28
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: **Reliability indices 933-02-3-1153, dated De	developed for ARINC Research Publication cember 1971

Noun Name:Generator, AC, SSTG Se	Land Colon March Colon C
General Description: Generator A	
CID/APL Number(s): 102500109	Federal Stock Number: 1H0000CF47575
Equipment Identification Code: PA	10100073100100
Technical Manual: 361-1437	
Manufacturer: 03497 General Electric	Co Low Voltage Switchgear Dept.
Ship Population: DD938,941,942,945,948	Basic Data 8,951, *(1) Equip. Population/Ship: 4 ea/DD; DDG; LSD
Equip. Population in Data Base: 76	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DD-S:A=0.48;B=0.48;	Data Assessment Period: 7/1/67 - 6/30/69 C=0.00/DDG-S: A=0.59; B=0.59; C=0.00;
Total Equip. Operating Time (hours): 49	0760
Total Number of: Failures (CM _f): 8	Corrective Maintenance Events (CM):34
Total CM _f Repair Man-Hours: 84	Total CM Repair Man-Hours: 478
Maintenance Factors:0.	67
(Forced Shutdown Corrective Maintenance) MTBCM _f : 61345	MTBCM: 14434
90% Confidence Interval	90% Confidence Interval
Upper Limit: 123121 Lower Limit: 33998	Upper Limit:19619
Lower Limit: 33998	Lower Limit: 10841
A	ainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
	MTTR _{cm} : 9.4
$ \begin{array}{cccc} \mathbf{MTTR_f} : & & 7 \cdot 0 \\ \mathbf{MCMM_f} : & & 8 \cdot 0 \end{array} $	MCMM _{cm} : 3.2
Max. Observed MH:38	Max. Observed MH: 87
MCMM _f : 10.5	MCMM _{cm} : 14.1
Variance: 149	Variance: 443
Indicated Distribution(s): Exponential	Normal Log Normal .19.20.21; LSD 31.33.34.35; *(2) LSD-S:
	bility indices developed for ARINC
N-U.JU, D-U.JU, U-U.UU MELIA	DILITY INCIDED GOVERNOUS TOT ANTINO

Noun Name: Generator, AC, SS	TG Set	Committee of the section	
General Description: General	tor AC	450V 750 KW 1200RPM	
CID/APL Number(s): 162500	221	Federal Stock Number: 1H0	000CG62316
Equipment Identification Code:	PA0100	00/3100100	
Technical Manual: 361-16	63		
Manufacturer: 03497 General Ele	ctric (Co. Low Voltage Switch	gear Dept.
	Basi	c Data	
DLG 8, 9, 10, 11,	14; LI	PD	
Ship Population: 1, 2, 3, 5, 6,			
Equip. Population in Data Base:		Data Assessment Period: 7	
Utilization Factors: DLG-S:A=0.40;B=	2011201		0.64;C=0.00
Total Equip. Operating Time (hours):			
Total Number of: Failures (CM _f):	4	Corrective Maintenance Events	(CM):20
Total CM _f Repair Man-Hours: 64		Total CM Repair Man-Hours:	188
Maintenance Factors:	0.67		
MTBCM _f : 56098 90% Confidence Interval Upper Limit: 164033 Lower Limit: 24506		90% Confidence Interval Upper Limit: Lower Limit:	16920
		bility Indices	
Corrective Maintenance — (Forced Shutdow	m	Corrective Maintenance - (All I	Events)
Failure Events Only)			
		MTTR _{cm} :6.6	
MTTR _f : 10.7 MCMM _f : 15.0		MCMM _{cm} : 4.5	AND AND PARTY.
Max. Observed MH: 30.0		Max. Observed MH:	43
MCMM _f : 16.0		MCMM _{cm} : 9.9	
Variance:131		Variance: 128	
Indicated Distribution (s): Exponential		Normal	Log Normal
*REMARKS: **Reliability indices 933-02-3-1153, dated December			rch Publication

Noun Name: Generator,	AC. SSTG Set	THE PERSON NAMED AND ADDRESS OF	Strates Steam 12
		50V 500 KW 1200 RPM	
CID/APL Number(s):	162500232	Federal Stock Number: 1H00	OCF94303
Equipment Identification Cod	e:PA01000	0/3100100	
Technical Manual:	361-1707		
Manufacturer: 03497 Ge	neral Electric	Co Low Voltage Switchg	ear Dept.
	Basi	c Data	
Ship Population: DD 709,7	16,718,723,725	*(1) Equip. Population/Ship:	2 ea/DD;
Equip. Population in Data Ba	se: 90	Data Assessment Period: 7	/1/67 - 6/30/69
Utilization Factors: DD - S	S: A = 0.86: B =	0.52; C = 0.00;	
Total Equip. Operating Time	(hours): 733314		
Total Number of: Failures	(CM _f): 11	. Corrective Maintenance Events (CM):107
		Total CM Repair Man-Hours:	
Mointenance Footom	0.67	Total On Incput Man House .	
Maintenance Factors:	9.44		
	Reliabil	ity Indices **	
Mean Time Between Failure (Forced Shutdown Corre	ective Maintenance)	Mean Time Between Corrective	Maintenance
MTBCM _f : 66665	16 miles	MTBCM: 6853	dia
90% Confidence Interval		90% Confidence Interval	
Upper Limit:	118852	Upper Limit: 80	97
Lower Limit:		Lower Limit: 58	36
	Maintains	bility Indices	
Corrective Maintenance - (Fo	orced Shutdown	Corrective Maintenance - (All I	Events)
Failure Events Only)			
MTTR _f : 6.6		MTTR _{cm} : 6.2	
MCMM _f :4.0		MCMM _{cm} :4.5	
Max. Observed MH:	46	Max. Observed MH: 15	0
MCMM _f : 9.9		MCMM _{cm} : 9.2	
Variance: 176	IS-Commonweat	Variance: 275	
Indicated Distribution(s):	Exponential	Normal	Log Normal X
*REMARKS: *(1) 730	743.746.755.75	8,759,760,780,781,782,	783,786,787,789,
790.806.808.818.819	9.820.826.830.83	2.836.837.839.840.851.	852,864,870,871,
875.876.877.881.88	4,885,886,888, *	*Reliability indices d , dated December 1971	eveloped for ARINC

Noun Name: Generator,	AC, SSTG Set	692 T. C.	
		230V 400 KW 1200 RPM	
CID/APL Number(s):	162900057	Federal Stock Number: 1H	0000CD18098
Equipment Identification Cod	e:PA0100	00/3100100	May be and the report
Technical Manual:	361-1317		
Manufacturer: 65054 Wes	tinghouse Elect	tric Corp.	The state of the s
Ohio Danulation AO 52 5		sic Data	2 02/10
		*(1) Equip. Population/Ship:	
		Data Assessment Period	
		= 0.70; C = 0.00	
		5	
		Corrective Maintenance Even	
Total CM _f Repair Man-Hours:	63	_ Total CM Repair Man-Hours:	595
Maintenance Factors:	0.67		The transfer of the team of th
(Forced Shutdown Corre MTBCM _f : 92485 90% Confidence Interval Upper Limit: Lower Limit:	338774	MTBCM: 11561 90% Confidence Interva Upper Limit: Lower Limit:	1 16757
	Maintain	ability Indices	
Corrective Maintenance - (Fo	rced Shutdown	Corrective Maintenance - (A	ll Events)
Failure Events Only)		16.5	
MTTR _f :14.0		MTTR _{cm} : 16.5	1970
MCMM _f :1.5		MCMM _{cm} :16.0	101
Max. Observed MH:	60	Max. Observed MH:	
MCMM _f :21.0 Variance:1141		MCMM _{cm} : 24.8 Variance: 687	- strepely
Indicated Distribution(s):	Exponential	Normal	Log Normal
*REMARKS: *(1) 58.	60.62.63.64.97	**Reliability indices 33-02-3-1153, dated De	developed for

Noun Name:Generator,	AC, SS Diesel Electric
General Description: General	tor AC CRCT 450 V 200 KW 1800 RPM
CID/APL Number(s): 1629000	Federal Stock Number * (1) None DWG-No-1-JH-1836
	PE01000
Technical Manual: 361-136	
	inghouse Electric Corp.
	Basic Data
Ship Population: MSØ 426, 43	2,435,444*(2) Equip. Population/Ship: 1 Ea/MSØ
Equip. Population in Data Base:	11 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: MSØ-S: A	= 1.0; B = 0.33; C = 0.0
Total Equip. Operating Time (hours)	81395
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
	Total CM Repair Man-Hours:
Maintenance Factors:	
Maintenance Factors:	
	Reliability Indices * *
Mean Time Between Failure (Forced Shutdown Corrective M	Mean Time Between Corrective Maintenance
MTBCM _f : 117800*(3)	
90% Confidence Interval	
Upper Limit:	
Lower Limit:	
	Maintainability Indices
Corrective Maintenance — (Forced SI	hutdown Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :	MTTR _{cm} :
MCMM _f :	MCMM _{cm} :
Max. Observed MH:	Max. Observed MH:
MCMM _f :	MCMM _{cm} :
Variance:	Variance:
Indicated Distribution(s): Expone	ential Normal Log Normal
*REMARKS:(1) ID-S- 163437	73 *(2) 448, 455, 466, 488, 490, 491, 508; *(3) The
highest equipment oners	te time computed for this study is 8800 hrs.
**Reliability indices de	veloped for ARINC Research Publication 933-02-1153
dated December 1971	2-212

	STG Set		
General Description: General	ator AC	450V 500 KW 1200 RPM	
		Federal Stock Number: 1H0000CD1750	
Equipment Identification Code:	PA0100	00/3100100	
Technical Manual: 361-18	309		(Marie Buell)
Manufacturer: 65054 Westinghous	se Elect	ric Corp.	<u> </u>
		sic Data	
Ship Population: DE 1045; DEG 1.3	2;	Equip. Population/Ship: 2 ea/DI	E; DEG
Equip. Population in Data Base:	_6	Data Assessment Period: 7/1/67	- 6/30/69
Utilization Factors: DE-S: A=1.00; B=	=0.97;C=	=0.00/DEG-S:A=1.00;B=1.00; C=0	0.00;
Total Equip. Operating Time (hours):	49692		-
Total Number of: Failures (CM _f):	0	_ Corrective Maintenance Events (CM):	4
Total CM. Repair Man-Hours: 0		_ Total CM Repair Man-Hours:	7
Maintenance Factors:			
(Forced Shutdown Corrective Mainta	enance)	Mean Time Between Corrective Maintenan MTBCM: 12423	nce
(Forced Shutdown Corrective Mainta	1836124 104		
(Forced Shutdown Corrective Mainta MTBCM _f : 71809*(1) 90% Confidence Interval Upper Limit:	aroeni Eur	MTBCM: 12423 90% Confidence Interval Upper Limit: 36325	
(Forced Shutdown Corrective Mainta MTBCM _f : 71809*(1) 90% Confidence Interval Upper Limit: Lower Limit:	— Maintain	MTBCM: 12423 90% Confidence Interval Upper Limit: 36325 Lower Limit: 5427	HIS) ,563HTEM
(Forced Shutdown Corrective Mainta MTBCMf: 71809*(1) 90% Confidence Interval Upper Limit: Lower Limit:	— Maintain	MTBCM: 12423 90% Confidence Interval Upper Limit: 36325 Lower Limit: 5427 ability Indices Corrective Maintenance — (All Events)	HIS) ,563HTEM
(Forced Shutdown Corrective Mainta MTBCM _f : 71809*(1) 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	— Maintain	MTBCM: 12423 90% Confidence Interval Upper Limit: 36325 Lower Limit: 5427 ability Indices Corrective Maintenance — (All Events) MTTRcm: 1.2	HILL SACHEAN - SA
(Forced Shutdown Corrective Mainta MTBCM _f : 71809*(1) 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	— Maintain	MTBCM: 12423 90% Confidence Interval Upper Limit: 36325 Lower Limit: 5427 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.2 MCMM _{cm} : 1.3	HEE] , MARENA - 20
(Forced Shutdown Corrective Mainta MTBCM _f : 71809*(1) 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	— Maintain	MTBCM: 12423 90% Confidence Interval Upper Limit: 36325 Lower Limit: 5427 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.2 MCMM _{cm} : 1.3 Max. Observed MH: 5	HEEL JACKET SM
(Forced Shutdown Corrective Mainta MTBCM _f :	— Maintain	MTBCM: 12423 90% Confidence Interval Upper Limit: 36325 Lower Limit: 5427 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.2 MCMM _{cm} : 1.3 Max. Observed MH: 5 MCMM _{cm} : 1.8	HEE] , MARENA - 20
(Forced Shutdown Corrective Mainta MTBCMf: 71809*(1) 90% Confidence Interval Upper Limit: Lower Limit: Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: MCMMf: Max. Observed MH:	— Maintain	MTBCM: 12423 90% Confidence Interval Upper Limit: 36325 Lower Limit: 5427 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.2 MCMM _{cm} : 1.3 Max. Observed MH: 5	HEE] , MARENA - 20
(Forced Shutdown Corrective Mainta MTBCM _f :	Maintain	## MTBCM:	Normal
MTBCM _f :	Maintain	MTBCM:	Normal

eneral Description:	Generator Ma	in Propulsion DC 550V 62	OKW 750 RPM
CID/APL Number(s):	164010050	Federal Stock Number: None I	D-05-164-217-00
Equipment Identification Code:			
Cechnical Manual:	341-5126		
		gr. Co., West Allis Plant	- Milwaukee
Manuactorer.			
	Bi	asic Data	
Ship Population: ATF 67,72	,75,76,84;	Equip. Population/Ship: 4	ea/ATF
Equip. Population in Data Base:	. 20	Data Assessment Period: 7/	1/67 - 6/30/69
		0.18 C = 0.00;	
		9	
Total Number of: Failures (C	CM(): 4	Corrective Maintenance Events (C	M):18
		Total CM Repair Man-Hours:	
Maintenance Factors:	0.67	_ Total CW Repair Wan-110ms	
MTBCM _f : 27975 90% Confidence Interval		MTBCM: 6220 90% Confidence Interval	
Upper Limit:	81798	Upper Limit: 90	192
	12220	Lower Limit:4	
Lower Limit:	12220		192
Lower Limit:		nability Indices	192
Lower Limit:Corrective Maintenance — (Force	Maintair	nability Indices	
Lower Limit: Corrective Maintenance — (Force Failure Events Only)	Maintair	nability Indices Corrective Maintenance — (All Ev	
Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR ₆ :21.8	Maintair	nability Indices Corrective Maintenance — (All Event Maintenance) MTTR _{cm} : $\frac{17.6}{}$	
Corrective Maintenance — (Force Failure Events Only) MTTR _f :	Maintair ed Shutdown	nability Indices Corrective Maintenance — (All Ev MTTR _{cm} :17.6 MCMM _{cm} :13.5	ents)
Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR _f :	Maintair	Corrective Maintenance — (All Eventual MTTR _{cm} :	
Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR _f :	Maintair ed Shutdown	Corrective Maintenance — (All Eventual MTTR _{cm} : 17.6 MCMM _{cm} : 13.5 Max. Observed MH: 16 MCMM _{cm} : 26.4	ents)
Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR _f :	Maintair ed Shutdown	Corrective Maintenance — (All Eventual MTTR _{cm} :	ents)
Lower Limit: Corrective Maintenance — (Force Failure Events Only) MTTR _f :	Maintain ed Shutdown	Corrective Maintenance — (All Event MTTR _{cm} : 17.6 MCMM _{cm} : 13.5 Max. Observed MH: 10 MCMM _{cm} : 26.4 Variance: 1044	ents)

Noun Name:	lsion Diesel Electric
General Description: Generator	Main Propulsion DC 375V 610 KW 700 RPM
CID/APL Number(s): 165500002	Federal Stock Number: 286115-635-1823
Equipment Identification Code: Technical Manual: 341-4052	1B00000/CB01000
Technical Manual: 341-4052	
Manufacturer: 03497 General Electr	ric Co., Low Voltage Switchgear Dept.
	Basic Data
Ship Population: ATF 96, 98, 100,	113 Equip. Population/Ship: 4 ea/ATF
Equip. Population in Data Base:	16 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: ATF-S: A = 0.83;	B = 0.18; C = 0.00
Total Equip. Operating Time (hours):	85078
Total Number of: Failures (CM _f):	O Corrective Maintenance Events (CM): 9
Total CM _f Repair Man-Hours:	O Total CM Repair Man-Hours: 533
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
MTBCM _f : 122946* (1) 90% Confidence Interval Upper Limit: Lower Limit:	9453 90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: Lower Limit:	90% Confidence Interval
90% Confidence Interval Upper Limit: Lower Limit:	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance: Indicated Distribution (s): Exponential	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance: Indicated Distribution(s): Exponential **REMARKS: (1) Max1mum observed	90% Confidence Interval Upper Limit:

	0 HP 1160 RPM
CID/APL Number(s): 174010180	Federal Stock Number: None Dwg-No-51-003
Equipment Identification Code: ZQ1	8000/F309300
Fechnical Manual: 347-2919	2" NOTE AND SHOP ENGINEED OF LIGHTEST
Manufacturer: 92392 Allis Chalmers M	gr. Co. West Allis Plant - Milwaukee
	Basic Data
Ship Population: DLG 8, 9, 10, 11, 1	4 Equip. Population/Ship: 4 ea/DLG
Equip. Population in Data Base: 20	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: DLG-S: A = 0.40; B	= 0.24; C = 0.00;
Total Equip. Operating Time (hours):123	444
	Corrective Maintenance Events (CM):15
Total CM _f Repair Man-Hours: 626	Total CM Repair Man-Hours:662
Maintenance Factors:0.6	7 Caton thou seed skill (ato)
WI BUNG	
9496 90% Confidence Interval Upper Limit: 16048	90% Confidence Interval Upper Limit: 12298
90% Confidence Interval	90% Confidence Interval
90% Confidence Interval Upper Limit: 16048 Lower Limit: 5970	90% Confidence Interval Upper Limit: 12298
90% Confidence Interval Upper Limit: 16048 Lower Limit: 5970 Mainta	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 16048 Lower Limit: 5970 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 16048 Lower Limit: 5970 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 32.1	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 16048 Lower Limit: 5970 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 32.1 MCMM _f : 22.0 Max. Observed MH: 132	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 16048 Lower Limit: 5970 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 32.1 MCMM _f : 22.0 Max. Observed MH: 132	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 16048 Lower Limit: 5970 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 32.1 MCMM _f : 22.0 Max. Observed MH: 132	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 16048 Lower Limit: 5970 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 32.1 MCMM _f : 22.0 Max. Observed MH: 132	90% Confidence Interval Upper Limit:

	G Set
General Description: Motor AC 440V 1	5 HP 3530 RPM
CID/APL Number(s): 174180002	Federal Stock Number: 6125-635-8939
Equipment Identification Code: QD0100	00/4703000
Technical Manual: 363-0543	Annual Annual Control of the Control
Manufacturer: 14237 Continental Elect	tric Co Inc.
В	lasic Data
DE 1006 1014 1009 1004	0 (DT-
	Equip. Population/Ship: 2 ea/DE;
	Data Assessment Period: 7/1/67 - 6/30/69
	0.20; C = 0.00
Total Equip. Operating Time (hours): 45487	
	Corrective Maintenance Events (CM):13
Total CM _f Repair Man-Hours: 120	Total CM Repair Man-Hours:306
Maintenance Factors: 0.67	
*	
Relial	bility Indices * *
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 7581	MTBCM: 3499
90% Confidence Interval	90% Confidence Interval
Upper Limit:17381	Upper Limit:5914
Lower Limit: 3839	Lower Limit: 2200
Maintai	nability Indices
	The products become a consum which
	The state of the second
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.3	Corrective Maintenance — (All Events) MTTR _{cm} :15.7
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : $\frac{13.3}{16.0}$	Corrective Maintenance — (All Events) MTTR _{cm} :15.7 MCMM _{cm} :12.0
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.3 MCMM _f : 16.0 Max. Observed MH: 48.0	Corrective Maintenance — (All Events) MTTR _{cm} :15.7 MCMM _{cm} :12.0 Max. Observed MH:90
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f :16.0 Max. Observed MH:48.0 MCMM _f :20.0	Corrective Maintenance — (All Events) MTTR _{cm} :15.7 MCMM _{cm} :12.0 Max. Observed MH:90 MCMM _{cm} :24.0
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f :16.0	Corrective Maintenance — (All Events) MTTR _{cm} : 15.7 MCMM _{cm} : 12.0 Max. Observed MH: 90
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.3 MCMM _f : 16.0 Max. Observed MH: 48.0 MCMM _f : 20.0	Corrective Maintenance — (All Events) MTTR _{cm} :15.7 MCMM _{cm} :12.0 Max. Observed MH:90 MCMM _{cm} :24.0
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f :16.0 Max. Observed MH:48.0 MCMM _f :20.0 Variance:240 Indicated Distribution(s): Exponential	Corrective Maintenance — (All Events) MTTR _{cm} :15.7 MCMM _{cm} :12.0 Max. Observed MH:90 MCMM _{cm} :24.0 Variance:667

General Description: Motor AC CID/APL Number(s): 174340361	THE R. LEWIS CO., LANSING MICH. LANSING MICH.		000CA681	55
Equipment Identification Code:				A JAA (JE)
Technical Manual: 347-1851			edited day of	de settemple
Manufacturer: 95402 General Dy	namics C	Corp. Electro Dynamic	Div.	a projective
	Basi	c Data		
Ship Population: LSD 31, 33,34,				
Equip. Population in Data Base:	16	Data Assessment Period:	7/1/67 -	6/30/6
Utilization Factors: LSD-S: A = 0.5	2: B = 0	0.25; C = 0.00;	ial in steam	gor quera
Total Equip. Operating Time (hours):			THE HOUSE	
Total Number of: Failures (CMf):	11	Corrective Maintenance Event	s (CM):	14
Total CM _f Repair Man-Hours: 145		Total CM Repair Man-Hours:	156	MINER COMMA
Maintenance Factors:			to the tages	pied bacif
Mean Time Between Failure (Forced Shutdown Corrective Mainte		Mean Time Between Correction	ve Maintenand	ce mosti arodi crosti
(Forced Shutdown Corrective Mainte MTBCM _f : 6972 90% Confidence Interval Upper Limit: 12430		Mean Time Between Correction MTBCM: 5478 90% Confidence Interval Upper Limit:	9053	
(Forced Shutdown Corrective Mainte MTBCM _f : 6972 90% Confidence Interval	enance) -	Mean Time Between Correction MTBCM: 5478 90% Confidence Interval	9053	
(Forced Shutdown Corrective Mainter MTBCM _f : 6972 90% Confidence Interval Upper Limit: 12430 Lower Limit: 4212 Corrective Maintenance — (Forced Shutdo Failure Events Only)	enance) Maintaina	Mean Time Between Corrective MTBCM: 5478 90% Confidence Interval	9053 3503	end? areld could) pht/subs adde
(Forced Shutdown Corrective Mainter MTBCM _f : 6972 90% Confidence Interval Upper Limit: 12430 Lower Limit: 4212 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 8.8	enance) Maintaina	Mean Time Between Corrective MTBCM: 5478 90% Confidence Interval	9053 3503	end? wedd endd yddyddid yddio eddyrend
(Forced Shutdown Corrective Mainter MTBCM _f : 6972 90% Confidence Interval Upper Limit: 12430 Lower Limit: 4212 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 8.8 MCMM _f : 4.0	enance) Maintaina	Mean Time Between Corrective MTBCM: 5478 90% Confidence Interval	9053 3503	end? areld could) pht/subs adde
(Forced Shutdown Corrective Mainter MTBCM _f : 6972 90% Confidence Interval Upper Limit: 12430 Lower Limit: 4212 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 8.8 MCMM _f : 4.0 Max. Observed MH: 45	enance) Maintaina	Mean Time Between Corrective MTBCM: 5478 90% Confidence Interval	9053 3503	end? areld could) pht/subs adde
(Forced Shutdown Corrective Mainter MTBCM _f : 6972 90% Confidence Interval Upper Limit: 12430 Lower Limit: 4212 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 8.8 MCMM _f : 4.0	enance) Maintaina	Mean Time Between Corrective MTBCM: 5478 90% Confidence Interval	9053 3503	end? areld could) pht/subs adde

Federal Stock Number:
Scorp. Electro Dynamic Div. Basic Data Equip. Population/Ship: 4 ea/LSD; Data Assessment Period: 7/1/67 - 6/30, = 0.25; C = 0.00;
S Corp. Electro Dynamic Div. Basic Data Equip. Population/Ship: 4 ea/LSD; Data Assessment Period: 7/1/67 - 6/30, = 0.25; C = 0.00;
Sesic Data Equip. Population/Ship: 4 ea/LSD; Data Assessment Period: 7/1/67 - 6/30, 0.25; C = 0.00;
Equip. Population/Ship: 4 ea/LSD; Data Assessment Period: 7/1/67 - 6/30, 0.25; C = 0.00;
Equip. Population/Ship: 4 ea/LSD; Data Assessment Period: 7/1/67 - 6/30, = 0.25; C = 0.00;
Equip. Population/Ship: 4 ea/LSD; Data Assessment Period: 7/1/67 - 6/30, = 0.25; C = 0.00;
Data Assessment Period: 7/1/67 - 6/30, = 0.25; C = 0.00;
Data Assessment Period: 7/1/67 - 6/30, = 0.25; C = 0.00;
= 0.25; C = 0.00;
Corrective Maintenance Events (CM):11
Corrective Maintenance Events (CM):11
Total CM Repair Man-Hours: 141
ability Indices **
Mean Time Between Corrective Maintenance
MTBCM: 6778
90% Confidence Interval
Upper Limit: 12084
Lower Limit: 4095
inability Indices
Corrective Maintenance — (All Events)
Conseque Maniera (111 210112)
MTTR _{cm} : 8.6
MCMM _{cm} :3.0
Max. Observed MH: 65
MCMM _{cm} : 12.8
Variance: 425
Normal Log Normal
developed for ARINC Research Publicat
271

deneral Description:	3 440V 150	HP 3600 RPM	A MARKET BERN
CID/APL Number(s):17434108			733-5028
Equipment Identification Code:			auaum 2362113
Technical Manual: 347-295;			gradi Interquipă
Manufacturer: 95402 General	Dynamics (Corp. Electro Dynamic Div	
		a construction and the second second	
		c Data	
Ship Population: SSB 599,601,602	2.608/SSN5	78 Equip. Population/Ship: 4 ea/	/SSB:4 ea/SS
Equip. Population in Data Base:	32	Data Assessment Period: 7/1/	67 - 6/30/60
Utilization Factors: SSBN-S: A=0.40	0;B=0.25;C	=0.00/SSN-S:A=0.34;B=0.34	1:C=0.00
Total Equip. Operating Time (hours):	91144		are respective.
Total Number of: Failures (CMf):_	7	Corrective Maintenance Events (CM)	:13
Total CM _f Repair Man-Hours: 98		Total CM Repair Man-Hours	235
Maintenance Factors:	0.67	Total on repair Nam House.	erna sied taan
	Reliabili	ity Indices **	
Mean Time Between Failure (Forced Shutdown Corrective Main		ity Indices ** Mean Time Between Corrective Main	itenance
(Forced Shutdown Corrective Main		Mean Time Between Corrective Main	itenance
		Mean Time Between Corrective Main	itenance
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720		Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval Upper Limit: 1184	
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval		Mean Time Between Corrective Main MTBCM: 7011	
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720	ntenance)	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval Upper Limit: 1184	
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720	ntenance) Maintaina	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval Upper Limit: 1184 Lower Limit: 440	9 8
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval	ntenance) Maintaina	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval	9 8
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720 Lower Limit: 6928 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 16.3	ntenance) Maintaina	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval Upper Limit: 1184 Lower Limit: 440 bility Indices Corrective Maintenance — (All Event	9 8
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720 Lower Limit: 6928 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 16.3 MCMM _f : 5.5	ntenance) Maintaina	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval Upper Limit: 1184 Lower Limit: 440 bility Indices Corrective Maintenance — (All Event MTTR _{cm} : 19.5 MCMM _{cm} : 3.3	9 8
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720 Lower Limit: 6928 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 16.3 MCMM _f : 5.5 Max. Observed MH: 86	ntenance) Maintaina	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval	9 8
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720 Lower Limit: 6928 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 16.3 MCMM _f : 5.5 Max. Observed MH: 86 MCMM _f : 24.4	ntenance) Maintaina	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval Upper Limit: 1184 Lower Limit: 440 bility Indices Corrective Maintenance — (All Event MTTR _{cm} : 19.5 MCMM _{cm} : 3.3 Max. Observed MH: 130 MCMM _{cm} : 29.3	9 8
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720 Lower Limit: 6928 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 16.3 MCMM _f : 5.5 Max. Observed MH: 86	ntenance) Maintaina	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval	9 8
(Forced Shutdown Corrective Main MTBCM _f : 13021 90% Confidence Interval Upper Limit: 27720 Lower Limit: 6928 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 16.3 MCMM _f : 5.5 Max. Observed MH: 86 MCMM _f : 24.4	Maintaina down	Mean Time Between Corrective Main MTBCM: 7011 90% Confidence Interval Upper Limit: 1184 Lower Limit: 440 bility Indices Corrective Maintenance — (All Event MTTR _{cm} : 19.5 MCMM _{cm} : 3.3 Max. Observed MH: 130 MCMM _{cm} : 29.3 Variance: 2493	9 8

Noun Name: Motor, AC, Main Cond	
General Description: Motor AC 440V	
CID/APL Number(s): 174750362	Federal Stock Number: 1H0000CG85424
	000/F30H300
Technical Manual: 347-1693, 347	-2401
Manufacturer: 50380 Reliance Elect:	ric & Engr. Co.
	Basic Data
an and also also also	010 #(1)
	948,*(1) Equip. Population/Ship: 2 ea/DD; DDG
Equip. Population in Data Base: 46	Data Assessment Period: 7/1/67 - 6/30/69
	0;C=0.00/DDG-S: A=0.52;B=0.27; C=0.00
Total Equip. Operating Time (hours): 224	718
	Corrective Maintenance Events (CM): 9
Total CMe Repair Man-Hours: 226	Total CM Repair Man-Hours: 256
	7
	eliability Indices **
	suability fiduces
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f :28090	MTBCM: 24969
90% Confidence Interval	90% Confidence Interval
Upper Limit: 56377	Upper Limit: 47792
Lower Limit: 15568	Lower Limit: 14301
Lower Limit.	
Mair	ntainability Indices
Ottotod of a 1 m consequent and a	administrative and the second
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	TOTAL PROPERTY OF THE PROPERTY
MTTR _f :18.8	MTTR _{cm} : 18.9
MCMM _f : 20.3	MCMM _{cm} :
Max. Observed MH:71	Max. Observed MH:71
MCMM _f :28.2	MCMM _{cm} :28.4
Variance:677	Variance: 593
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 951; DDG 2.5.6.	7,8,9,12,14,17,18,19,20,21,24,31,32,33;
**Reliability indices developed	for ARINC Research Publication
933-02-3-1153, dated December	1971

General Description: Motor AC 440V		
CID/APL Number(s): 174750363		
Equipment Identification Code: ZQ1		on other transmi
Technical Manual: 347-2643		
Manufacturer: 50380 Reliance Elect:	ric & Engr. Co.	PART CONTRACTOR
	Basic Data	
Ship Population: DD 938,941,942,945	048 *(1) Fauin Population/Shin:	2 02/00.000
Equip. Population in Data Base: 18		
Utilization Factors: DD-S:A=0.8;B=0.44		
Total Equip. Operating Time (hours): 124		
Total Number of: Failures (CM_f) : 17		
Total CM _f Repair Man-Hours: 851	Total CM Repair Man-Hours:	051
Maintenance Factors: 0.6	1	
	1-11-1-114 T- 41 **	
R	teliability Indices **	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Mean Time Between Corrective	e Maintenance
Mean Time Between Failure	Mean Time Between Corrective	menistarië barerii)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval	Mean Time Between Corrective	manistrati baceri) En Compositorio
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit:	11505
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval	11505
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505 Lower Limit: 4887	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit:	11505
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505 Lower Limit: 4887 Mai	Mean Time Between Corrective MTBCM:	11505 4887_
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505 Lower Limit: 4887 Mai Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit: Lower Limit:	11505 4887_
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505 Lower Limit: 4887 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (All	11505 4887_
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505 Lower Limit: 4887 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 33.4	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: intainability Indices Corrective Maintenance — (All MTTR _{cm} : 33.4	11505 4887_
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505 Lower Limit: 4887 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 33.4 MCMM _f : 48.1	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Maintainability Indices Corrective Maintenance — (All MTTR _{cm} : 33.4 MCMM _{cm} : 48.1	11505 4887_
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505 Lower Limit: 4887 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 33.4 MCMM _f : 48.1 Max. Observed MH: 147	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Lower Limit: MTTR _{cm} : 33.4 MCMM _{cm} : 48.1 Max. Observed MH:	11505 4887_ Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Maintainability Indices Corrective Maintenance — (All MTTR _{cm} : 33.4 MCMM _{cm} : 48.1 Max. Observed MH: 50.1	11505 4887_ Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 7332 90% Confidence Interval Upper Limit: 11505 Lower Limit: 4887 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 33.4 MCMM _f : 48.1 Max. Observed MH: 147	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: 400 Intainability Indices Corrective Maintenance — (All MTTR _{cm} : 33.4 MCMM _{cm} : 48.1 Max. Observed MH: 50.1	11505 4887_ Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective MTBCM: 7332 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Maintainability Indices Corrective Maintenance — (All MTTR _{cm} : 33.4 MCMM _{cm} : 48.1 Max. Observed MH: 50.1 Variance: 1620	11505 4887_ Events)

		er Pump	
eneral Description: Motor AC			2 02505
ID/APL Number(s):17475051			
quipment Identification Code:	ZQ18000/	F309300	
echnical Manual: 347-3227			
anufacturer: 50380 Reliance	Electric	e & Engr. Co.	
	Basi	c Data	
		*(1)	as /DDG · DIG
hip Population: DDG 2,5,6,7,8,9	.12,14,1	Equip. Population/Ship: 7	(2.167 6.120.16c
quip. Population in Data Base:	76 =0 30.C:	Data Assessment Period: 7	/1/67 - 6/30/69 24:C=0.00:
tilization Factors: DDG-3.R-0.30,1	249077	-0.00, DEG-5.R-0.40, B-0.	21,0 0.00,
otal Equip. Operating Time (hours):	340911		22
otal Number of: Failures (CM _f):			
otal CM _f Repair Man-Hours: 1512		Total CM Repair Man-Hours:	1688
faintenance Factors:	0.67		
90% Confidence Interval Upper Limit: 20068	3.860	MTBCM: 10906 90% Confidence Interval Upper Limit:	
Lower Limit: 9994	_	Lower Limit:	8118
	Maintaina	bility Indices	
	Manifania		
orrective Maintenance — (Forced Shutdo	wn		Events)
Failure Events Only))Wn	Corrective Maintenance — (All E	Events)
Failure Events Only))Wn	Corrective Maintenance — (All E	Events)
Failure Events Only) ATTR _f : 40.3 42.0)Wn	Corrective Maintenance — (All E	
Failure Events Only) MTTR _f : 40.3 MCMM _f : 42.0 Max. Observed MH: 164	own	Corrective Maintenance — (All E MTTR _{cm} :35.2 MCMM _{cm} :36.1 Max. Observed MH:	events)
Failure Events Only) MTTR _f : 40.3 MCMM _f : 42.0 Max. Observed MH: 164 MCMM _f : 60.5	own	Corrective Maintenance — (All E MTTR _{cm} : 35.2 MCMM _{cm} : 36.1 Max. Observed MH: 52.8	
Failure Events Only) MTTR _f : 40.3 MCMM _f : 42.0 Max. Observed MH: 164	own	Corrective Maintenance — (All E MTTR _{cm} :35.2 MCMM _{cm} :36.1 Max. Observed MH:	
Failure Events Only) MTTR _f : 40.3 MCMM _f : 42.0 Max. Observed MH: 164 MCMM _f : 60.5 Variance: 2295	Water of the Control	Corrective Maintenance — (All E MTTR _{cm} :	
MTTR _f :40.3 MCMM _f :42.0 Max. Observed MH:164 MCMM _f :60.5	TOTAL MACHE CONTRACTOR A MINU	Corrective Maintenance — (All E MTTR _{cm} :	164 Log Normal

Noun Name: Motor, AC, Main Conden General Description: Motor AC 4	140V 30 HP 875 RPM
CID/API Number(s): 174750580	Federal Stock Number: None Dwg. No. 82429
Equipment Identification Code: 2	Q17000/F30H300
Technical Manual: 347-3158	Temporal Accounts To
Manufacturer: 50380 Reliance Elect	ric & Engr. Co.
Manual de Caret.	
	Basic Data
Ship Population: DLG 8, 9, 10, 11,	14 Equip. Population/Ship: 2
Equip. Population in Data Base:	Data Assessment Period: $7/1/67 - 6/30/69$ 3 = 0.33; C = 0.0
Utilization Factors: DLG-S: A = 0.67; B	3 = 0.33; C = 0.0
Total Equip. Operating Time (hours):	64498
Total Number of: Failures (CM _f):	
Total CM _f Repair Man-Hours:	O Total CM Repair Man-Hours: 12.0
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMs: 93205* (1)	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1) 90% Confidence Interval	MTBCM: 64498 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1)	MTBCM: 64498
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1) 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 64498 90% Confidence Interval Upper Limit: 1194407
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1) 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 64498 90% Confidence Interval Upper Limit: 1194407 Lower Limit: 13596 stainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1) 90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 64498 90% Confidence Interval Upper Limit: 1194407 Lower Limit: 13596 stainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1) 90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	MTBCM: 64498 90% Confidence Interval Upper Limit: 1194407 Lower Limit: 13596 stainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1) 90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	MTBCM: 64498 90% Confidence Interval Upper Limit: 1194407 Lower Limit: 13596 stainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.0 MCMM _{cm} : 0.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 64498 90% Confidence Interval Upper Limit: 1194407 Lower Limit: 13596 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.0 MCMM _{cm} : 0.0 Max. Observed MH: 0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1) 90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	MTBCM:64498 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 64498 90% Confidence Interval Upper Limit: 1194407 Lower Limit: 13596 stainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.0 MCMM _{cm} : 0.0 Max. Observed MH: 0 MCMM _{cm} : 12.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 93205* (1) 90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance: Indicated Distribution(s): Exponential *REMARKS: (1) Max1mum observed of	MTBCM: 64498 90% Confidence Interval Upper Limit: 1194407 Lower Limit: 13596 Attainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.0 MCMM _{cm} : 0.0 Max. Observed MH: 0 MCMM _{cm} : 12.0 Variance: 0

General Description: MOCOL AC 440V	30 HP 1165 RPM
General Description: Motor AC 440V CID/APL Number(s): 174750756 Equipment Identification Code: ZQ1700	Federal Stock Number: 1H0000CG93760
Equipment Identification Code: ZQ1700	00/F30H300
Equipment Identification Code: 281700	
	ric & Engr. Co.
В	Basic Data
Ship Population: DLG 18, 19, 20, 22,	23 Equip. Population/Ship: 2 ea/DLG
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69 = 0.33; C = 0.0
Utilization Factors: DLG-S: A = 0.67; B =	= 0.33; C = 0.0
Total Equip. Operating Time (hours): 64138	
Total Number of: Failures (CM.):	Corrective Maintenance Events (CM): 1
Total CM. Repair Man-Hours: 24	Total CM Repair Man-Hours: 24
Maintanance Factors: 0.67	
(Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 64138
(Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520	MTBCM: 64138 90% Confidence Interval Upper Limit: 1187741
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Maintai	MTBCM: 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Linability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.0	MTBCM: 64138 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval	MTBCM: 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.0 MCMM _{cm} : 0.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.0 MCMM _f : 0.0 Max. Observed MH: 0	MTBCM: 64138 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.0 MCMM _f : 0.0 Max. Observed MH: 0	MTBCM: 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.0 MCMM _{cm} : 0.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.0 MCMM _f : 0.0 Max. Observed MH: 0 MCMM _f : 24.0 Variance: 0 Indicated Distribution (s): Exponential	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 64138 90% Confidence Interval Upper Limit: 1187741 Lower Limit: 13520 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.0 MCMM _f : 0.0 Max. Observed MH: 0 MCMM _f : 24.0 Variance: 0 Indicated Distribution (s): Exponential	### MTBCM:

Noun Name: Motor, AC, Main Conde		10.76%
General Description: Motor AC 220V	15 HP 1760 RPM	
CID/APL Number(s): 174800829		
Equipment Identification Code: ZQ170		
Technical Manual: 347-1417		
Manufacturer: 65054 Westinghouse El	ectric Corp.	
	Basic Data	
Ship Population: AO 52,53,54,55,56,57	*(1) Equip. Population/Ship	3 ea/A0:
Equip. Population in Data Base: 36	Data Assessment Period	: 7/1/67 - 6/30/
Utilization Factors: AO - S: A = 0.67;		
Total Equip. Operating Time (hours): 19056		
Total Number of: Failures (CM _f): 2	Corrective Maintenance Even	ts (CM):12
Total CM _f Repair Man-Hours: 24		
Maintenance Factors: 0.67	Total CM Repair Man-nours	
Mean Time Between Failure	Mean Time Between Correct	ive Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 95282	Mean Time Between Correct	emoliticas kosterii) LEDES _{(K} ESTERI
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 95282 90% Confidence Interval	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva	emobileda bestefili 1.15 (63) In production con
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 95282 90% Confidence Interval Upper Limit: 529347	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva	 I 27495
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 95282 90% Confidence Interval	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva	 I 27495
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 95282 90% Confidence Interval Upper Limit: 529347 Lower Limit: 30239	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva	 I 27495
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 95282 90% Confidence Interval Upper Limit: 529347 Lower Limit: 30239 Maint	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit:	27495 9801
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 95282 90% Confidence Interval Upper Limit: 529347 Lower Limit: 30239 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit: cainability Indices Corrective Maintenance — (A	27495 9801
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :95282 90% Confidence Interval	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit: sainability Indices Corrective Maintenance — (A	27495 9801
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 95282 90% Confidence Interval Upper Limit: 529347 Lower Limit: 30239 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 7.9 MCMM _f : 11.9	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit: sainability Indices Corrective Maintenance — (A MTTR _{cm} : 10.3 MCMM _{cm} : 2.5	27495 9801
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :95282 90% Confidence Interval	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit: sainability Indices Corrective Maintenance — (A MTTR _{cm} : 10.3 MCMM _{cm} : 2.5 Max. Observed MH:	27495 9801
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :95282 90% Confidence Interval	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit: Lower Limit: Aninability Indices Corrective Maintenance — (A MTTR _{cm} : 10.3 MCMM _{cm} : 2.5 Max. Observed MH: MCMM _{cm} : 15.4	27495 9801
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :95282 90% Confidence Interval	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit: sainability Indices Corrective Maintenance — (A MTTR _{cm} : 10.3 MCMM _{cm} : 2.5 Max. Observed MH:	27495 9801
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :95282 90% Confidence Interval	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit: Lower Limit: Aninability Indices Corrective Maintenance — (A MTTR _{cm} : 10.3 MCMM _{cm} : 2.5 Max. Observed MH: MCMM _{cm} : 15.4	27495 9801
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :95282 90% Confidence Interval	Mean Time Between Correct MTBCM: 15880 90% Confidence Interva Upper Limit: Lower Limit: sainability Indices Corrective Maintenance — (A MTTR _{cm} : 10.3 MCMM _{cm} : 2.5 Max. Observed MH: MCMM _{cm} : 15.4 Variance: 1130 Normal	27495 9801 All Events)

Noun Name: Motor, Main Propulsion	n
General Description: Motor DC Main H	Propulsion 750V 3000 HP VRY GRP M
CID/APL Number(s): 174800840	Federal Stock Number: 286105-500-2180
Equipment Identification Code: 100000	00
Cachnical Manual: 341-4052	
Manufacturer: 65054 Westinghouse Ele	ectric Corp.
	Basic Data
Ship Population: ATF 96, 98, 100, 11	Equip. Population/Ship: 2 ea/ATF
Equip Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: ATF-S: A = 0.83; B	= 0.00; C = 0.0
Total Equip. Operating Time (hours): 45474	
	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 662	Total CM Repair Man-Hours:77
Maintenance Factors: 0.67	
MTBCM _f : 65713* (1) 90% Confidence Interval Upper Limit:	MTBCM:11370 90% Confidence Interval Upper Limit:33241 Lower Limit:4966
	tainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	72.8
MTTR _f :	MTTR _{cm} : 12.8
MCMM _f :	MCMM _{cm} :11.0
Max. Observed MH:	Max. Observed MH: 50
MCMM _f :	MCMM _{cm} :
Variance:	Variance: 442
Indicated Distribution(s): Exponential	
*REMARKS: (1) Maximum observed or study is 5640 hours **Reliabil	perate time for an equipment during this lity indices developed for ARINC Research
Publication 933-02-3-1153, date	
	2-228

Noun Name: Motor, Main Feed Booster	Pump
General Description: Motor AC 440V	40 HP 1175 RPM
CID/APL Number(s): 174802352	Federal Stock Number: 1H0000CD04717
Equipment Identification Code: ZQ18000	D/F309300
Equipment Identification Code: ZQ18000 Technical Manual: 347-3684 and 347-4	1158
Manufacturer: 65054 Westinghouse Electr	ric Corp.
Basic	e Data
Ship Population: DLG 28, 29, 30, 31, 32,	33 Equip. Population/Ship: 6 ea/DLG
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG-S: A = 0.40; B = 0).24; C = 0.0
Total Equip. Operating Time (hours): 250817	
Total Number of: Failures (CM _f): 0	Corrective Maintenance Events (CM):
Total CMe Repair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors:	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 362453* (1) 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM:
	Lower Limit:
Maintainal	
Maintainal	Lower Limit:
Corrective Maintenance — (Forced Shutdown	pility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} : Max. Observed MH:
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} :
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: MCMM _f : Variance: Indicated Distribution(s): Exponential	Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} : Max. Observed MH: Variance: Normal Log Normal
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: MCMM _f : Variance: Indicated Distribution(s): Exponential	Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} : Max. Observed MH: Variance:

General Description: Motor AC 440V	30 HP 1175 RPM
CID/API, Number(s): 174802353	Federal Stock Number: 1H000CD04716
	000/F30H300
Technical Manual: 347-3683	
	ectric Corp.
	Basic Data
Ship Population: DLG 28, 29, 30,31, 32	2, 33; Equip. Population/Ship: 4 ea/DLG;
Equip Population in Data Base: 24	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG-S: A = 0.67; F	B = 0.33; C = 0.00;
Total Equip. Operating Time (hours): 174057	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):
Total CM. Renair Man-Hours: 28	Total CM Repair Man-Hours:28
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 174057 90% Confidence Interval Upper Limit: 3223278 Lower Limit: 36690	MTBCM: 174057
DOWN DIMIN.	tainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 18.7 MCMM _f : 0.0	MTTR _{cm} :18.7
	MCMM _{cm} :0.0
MCMM _f :0.0	CIII
Max. Observed MH:	Max. Observed MH:0
Max. Observed MH: 0	Max. Observed MH: 0 MCMM _{cm} : 28.0
MCMM _f :0	Max. Observed MH:0
Max. Observed MH: 0 MCMM _f : 28.0 Variance: 0 Indicated Distribution(s): Exponential	Max. Observed MH:
Max. Observed MH: 0 MCMM _f : 28.0 Variance: 0 Indicated Distribution(s): Exponential	Max. Observed MH:0 MCMM _{cm} :0 Variance:0

Noun Name: Motor, AC, DC M/G Set			
General Description: Motor AC 440V 75			
CID/APL Number(s): 174810818	Federal Stock Number: 6125-635-3214		
Equipment Identification Code: QM01000/	/4705000		
Technical Manual: 303-0533			
Manufacturer: 08219 Safety Electrical I	Equipment Corp.		
Basic Data			
Ship Population: LST 1159,1161,1163,1166* (1) Equip. Population/Ship: 1 ea/LST			
Equip. Population in Data Base:9	Data Assessment Period: 7/1/67 - 6/30/69		
Utilization Factors: LST-S: A = 0.15; B = 0	Data Assessment Period: 7/1/67 - 6/30/69		
Total Equip. Operating Time (hours): 13617			
Total Number of: Failures (CM _f):0	Corrective Maintenance Events (CM):		
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:		
Maintenance Factors:			
Reliabili	ty Indices**		
Mean Time Between Failure	Mean Time Between Corrective Maintenance		
(Forced Shutdown Corrective Maintenance)			
MTBCM _f : 19045* (2)	MTBCM: 19045* (2)		
90% Confidence Interval	90% Confidence Interval		
Upper Limit:	Upper Limit:		
Lower Limit:	Lower Limit:		
Maintainability Indices			
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)		
Failure Events Only)			
MTTR _f :	MTTR _{cm} :		
MCMM _f :	MCMM _{cm} :		
Max. Observed MH:	Max. Observed MH:		
MCMM _f :	MCMM _{cm} :		
Variance:	Variance:		
Indicated Distribution(s): Exponential	Normal Log Normal		
), 1174; (2) Maximum observed equip-		
	was 1698 hours. **Reliability indi-		
	blication 933-02-3-1153, dated Decem-		
ber 1971 2-23			

oun Name: 400 Hertz M/G Set eneral Description: Motor Generator 440	VAC 100 HP 450 VAC 60 KW
ID/APL Number(s): 181040029	Federal Stock Number: No. 51-003-252
quipment Identification Code: QDOO	(a) (c) (a) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c
echnical Manual: None	ту управици оры попытров попущ
	g. Co. West Allis Plant, Milwaukee
ianulacturer: <u>72372 NIIII GNAIMETS MI</u>	A. OO. MOO HILL I LAW I LAW I WAS A SHOULD BE A SHOULD
	Basic Data
CVA 66; DDG 20, 21;	6 ea/CVA; DLG;
	Equip. Population/Ship: 3 ea/DDG;
Equip Population in Data Base: 36	Data Assessment Period: 7/1/67 - 6/30/69
Itilization Factors: CVA/S: A=0.25, B=0.05	Data Assessment Period: 7/1/67 - 6/30/69 , C=0.05; DDG/S: A=0.46, B=0.33, C=0.05 *
Total Equip. Operating Time (hours):	202288
Total Number of: Failures (CMs): 22	Corrective Maintenance Events (CM):40
Maintenance Factors:0.67	Total CM Repair Man-Hours: 432
Authoritation 2 dottors:	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194	Mean Time Between Corrective Maintenance MTBCM: 5057
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 5057 90% Confidence Interval Upper Limit: 6699
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 5057
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439	Mean Time Between Corrective Maintenance MTBCM: 5057 90% Confidence Interval Upper Limit: 6699
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439 Mainta	Mean Time Between Corrective Maintenance MTBCM: 5057 90% Confidence Interval Upper Limit: 6699 Lower Limit: 3885
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439	Mean Time Between Corrective Maintenance MTBCM: 5057 90% Confidence Interval Upper Limit: 6699 Lower Limit: 3885 Ainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439 Mainta	Mean Time Between Corrective Maintenance MTBCM: 5057 90% Confidence Interval Upper Limit: 6699 Lower Limit: 3885 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.2 MCMM _{cm} : 6.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2	Mean Time Between Corrective Maintenance MTBCM: 5057 90% Confidence Interval Upper Limit: 6699 Lower Limit: 3885 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.2 MCMM _{cm} : 6.0 Max. Observed MH: 69
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2 MCMM _f : 5.5 Max. Observed MH: 40 MCMM _f : 9.3	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2 MCMM _f : 5.5 Max. Observed MH: 40	Mean Time Between Corrective Maintenance MTBCM: 5057 90% Confidence Interval Upper Limit: 6699 Lower Limit: 3885 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.2 MCMM _{cm} : 6.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9194 90% Confidence Interval Upper Limit: 13583 Lower Limit: 6439 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2 MCMM _f : 5.5 Max. Observed MH: 40 MCMM _f : 9.3	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: 400 Hertz M/G Se	t	Nance Stone 1997 Bright St. St. St. St. St. St. St. St. St. St
General Description: Motor	Generator `	V HP V KW
CID/APL Number(s): 181040	0029	Federal Stock Number: None (No-51-003-252)
Equipment Identification Code:	QD00000/4	703000
Technical Manual: 363-09	143	- DutaN barati
Manufacturer: 92392 Allis Cha	lmers Mgr.	Co., West Allis Plant - Milwaukee
	Basic	Data
CI: P DDG 20 21 DIG	9 10 20 22	3 ea/DDG;
Ship Population: DDG 20,21;DLG1	36	, 23; Equip. Population/Ship: 6 ea/DLG;
Equip. Population in Data Base:	.B=0 33.C=	Data Assessment Period: 7/1/67 - 6/30/69 0.00/DLG-S: A=0.67; B=0.67; C=0.00;
Total Equip. Operating Time (hours):	THE RESERVE TO SHARE THE PARTY OF THE PARTY	Corrective Maintenance Events (CM):7
		Total CM Repair Man-Hours: 424
Maintenance Factors:	0.67	The state of the s
(Forced Shutdown Corrective Main MTBCM _f : 295437 90% Confidence Interval Upper Limit: 5471056 Lower Limit: 62276	EST MEDITER MASS 1998 MASS 1998	MTBCM: 42205 90% Confidence Interval Upper Limit: 89853 Lower Limit: 22456
	Maintainabi	lity Indices
Corrective Maintenance — (Forced Shut Failure Events Only)	down	Corrective Maintenance — (All Events)
MTTR _f : 34.3	THE RESERVED AND ADDRESS.	MTTR _{cm} : 40.3
MCMM _f :		MCMM _{cm} : 22.0
Max. Observed MH: 0		Max. Observed MH: 273
MCMM _f : 51.5	Access from V	MCMM _{cm} : 60.5
Variance:0		Variance: 9235
Indicated Distribution(s): Exponentia	al	Normal Log Normal
*REMARKS, **Reliability in 933-02-3-1153, dated Dece		loped for ARINC Research Publication

Noun Name: 400 Hertz M/G Set	
General Description: Motor Generator 25	
CID/APL Number(s): 181040034	Federal Stock Number:
Equipment Identification Code: QDOO	A Company of the Comp
Technical Manual:	W 4 4111 D1 4 4 111 1 1 1 1 1 1 1 1 1 1 1
Manufacturer: Allis Chalmers Mfg. Co	. West Allis Plant - Milwaukee
1	Basic Data
Ship Population: SSN 594	Equip. Population/Ship: 2 ea/SSN
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.95, B =	0.25, C = 0.25
Total Equip. Operating Time (hours):1848	82
Total Number of: Failures (CM _f): 6 ^	Corrective Maintenance Events (CM): 13
Total CM _f Repair Man-Hours: 48	Total CM Repair Man-Hours:68
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1412 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080	Mean Time Between Corrective Maintenance MTBCM: 1412
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval Upper Limit: 7073 Lower Limit: 1561	Mean Time Between Corrective Maintenance MTBCM: 1412 90% Confidence Interval Upper Limit: 2404
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval Upper Limit: 7073 Lower Limit: 1561	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:2404 Lower Limit:894
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval Upper Limit: 7073 Lower Limit: 1561 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.3	Mean Time Between Corrective Maintenance MTBCM: 1412 90% Confidence Interval Upper Limit: 2404 Lower Limit: 894 inability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval Upper Limit: 7073 Lower Limit: 1561 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.3 MCMM _f : 6.0	Mean Time Between Corrective Maintenance MTBCM: 1412 90% Confidence Interval Upper Limit: 2404 Lower Limit: 894 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.5 MCMM _{cm} : 3.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval Upper Limit: 7073 Lower Limit: 1561 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.3 MCMM _f : 6.0 Max. Observed MH: 24	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval Upper Limit: 7073 Lower Limit: 1561 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.3 MCMM _f : 6.0 Max. Observed MH: 24 MCMM _f : 8.0	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval Upper Limit: 7073 Lower Limit: 1561 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.3 MCMM _f : 6.0 Max. Observed MH: 24	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3080 90% Confidence Interval Upper Limit: 7073 Lower Limit: 1561 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.3 MCMM _f : 6.0 Max. Observed MH: 24 MCMM _f : 8.0	MCMM _{cm} :

Noun Name: 400 Hertz M/G Set	
	O V DC 75 HP 130 V AC 32.4 KW
CID/APL Number(s): 181040038	Federal Stock Number:None *(1)
Equipment Identification Code: QDOO	The second secon
Technical Manual: 363-1001	
Manufacturer: 92392 Allis Chalmers Mf	fg. Co. West Allis Plant - Milwaukee
	Basic Data
SSBN 628,629,630,631,632,63	33,634,
	*(2) Equip. Population/Ship: 1 ea/SSBN
	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: $A = 0.50$, $B = 0$.	25, C = 0.25
Total Equip. Operating Time (hours): 142484	
Total Number of: Failures (CM _f): 49	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 1745	Total CM Repair Man-Hours:5464
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742	Mean Time Between Corrective Maintenance MTBCM: 638 90% Confidence Interval Upper Limit: 716
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292	Mean Time Between Corrective Maintenance MTBCM: 638 90% Confidence Interval Upper Limit: 716
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292 Mainta	Mean Time Between Corrective Maintenance MTBCM: 638 90% Confidence Interval Upper Limit: 716 Lower Limit: 572
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292 Mainta	Mean Time Between Corrective Maintenance MTBCM: 638 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 638 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 23.7	Mean Time Between Corrective Maintenance MTBCM:638 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 23.7 MCMM _f : 6.0 Max. Observed MH: 560	Mean Time Between Corrective Maintenance MTBCM:638 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 23.7 MCMM _f : 6.0 Max. Observed MH: 560	MTBCM: 638 90% Confidence Interval Upper Limit: 716 Lower Limit: 572 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.3 MCMM _{cm} : 6.5 Max. Observed MH: 560 MCMM _{cm} : 24.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 23.7 MCMM _f : 6.0	MTBCM: 638 90% Confidence Interval Upper Limit: 716 Lower Limit: 572 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.3 MCMM _{cm} : 6.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2907 90% Confidence Interval Upper Limit: 3742 Lower Limit: 2292 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 23.7 MCMM _f : 6.0 Max. Observed MH: 560	MTBCM: 638 90% Confidence Interval Upper Limit: 716 Lower Limit: 572 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.3 MCMM _{cm} : 6.5 Max. Observed MH: 560 MCMM _{cm} : 24.5

V AC 10.7HP 130V AC 5.KW
Federal Stock Number:
and the state of t
AND STATE OF THE S
. West Allis Plant-Milwaukee
sic Data 2, Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69 .75, C = 0.75
93008
_ Corrective Maintenance Events (CM):55
_ Total CM Repair Man-Hours:501
0.67
MTBCM:5327
90% Confidence Interval
Upper Limit: 6752
Lower Limit: 4256
ability Indices
Corrective Maintenance — (All Events)
MTTR _{cm} :6.1
MCMM _{em} : 5.5
Max. Observed MH:56
MCMM _{cm} : 9.1
Variance: 144

Noun Name: 400 Hertz M/G Set	
General Description: Motor Generator	440 V AC 100 HP 450 V AC 60 KW
CID/APL Number(s): 181040046	Federal Stock Number:51-003-317
Equipment Identification Code: QDOO	
Technical Manual: None	
	s Mfg. Co. West Allis Plant - Milwaukee
	Basic Data
DIG 28 20 20 21	a lag/DIC
Ship Population: DLG 20, 29, 30, 31;	Equip. Population/Ship: 1 ea/DLG
Equip. Population in Data Base: 4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG/S: A = 0.17	
Total Number of Feitures (CM): 97	
	Corrective Maintenance Events (CM): 13
	Total CM Repair Man-Hours: 515 515
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance MTBCM _f :	мтвсм :746
90% Confidence Interval	90% Confidence Interval
Upper Limit: 3714	Upper Limit: 1262
Lower Limit: 819	Lower Limit: 469
Maj	intainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :16.0	MTTR _{cm} : 26.4
MCMM _f :27.5	MCMM _{cm} :
Max. Observed MH: 45	Max. Observed MH:
MCMM _f : 24.0	MCMM _{cm} : 39.6
Variance: 340	Variance: 2919
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	
*REMARKS:	

Noun Name: 400 Hertz M/G Set General Description: Motor Generator 440	O V AC 155 HP 450 V AC 100) KW
CID/APL Number(s): 181040049		
Equipment Identification Code: QDOO		migif Amenia
Technical Manual: None		Server James
Manufacturer: 92392 Allis Chalmers M	Mfg. Co. West Allis Plant - Mil	waukee
	Basic Data	
Ship Population: DLG 29, 30, 31;	Equip. Population/Ship: 1 ea/I	LG
Equip. Population in Data Base: 3	Data Assessment Period: 7/1/67	- 6/30/6
Utilization Factors: S: A = 0.50, B = 0.		
Total Equip. Operating Time (hours): 21689	And the second section is a second section to the second section in the second section is a second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a section section in the second section in the section is a section section in the section is a section section in the section in the section is a section section in the section in the section is a section section in the section in the section section is a section section in the section section in the section is a section section section section section in the section secti	er met t
Total Number of: Failures (CM _f): 3	Corrective Maintenance Events (CM):	3
Total CM _f Repair Man-Hours: 211	Total CM Repair Man-Hours:	211
Maintenance Factors: 0.67		
Mean Time Between Failure	Mean Time Between Corrective Maintena	ince
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintena	nce m
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229	Mean Time Between Corrective Maintena MTBCM: 7229	uli turnin) 13. – ykini
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229 90% Confidence Interval	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval	uli tannyi 1-11yhtoe brysii repo
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229 90% Confidence Interval Upper Limit: 26524	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval Upper Limit: 26524	ull tacum Siloonia Siloonia Siloonia
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229 90% Confidence Interval	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval	ull tacum Siloonia Siloonia Siloonia
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval Upper Limit: 26524	ull tacum Siloonia Siloonia Siloonia
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 Mainta	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797	ull tacuri Siloo ylebil Silyatraspe <u>mo</u> cci
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 Mainta Corrective Maintenance — (Forced Shutdown Failur: Events Only)	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797	ull tacuri Siloo ylebil Silyatrasya <u>So</u> col
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 Mainta Corrective Maintenance — (Forced Shutdown Failur: Events Only) MTTR _f : 46.9	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 minability Indices Corrective Maintenance — (All Events) MTTRom: 46.9	ull tacuri Siloo ylebil Silyatrasya <u>So</u> col
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 minability Indices Corrective Maintenance — (All Events) MTTRom: 46.9	ull tacuri Siloo ylebil Silyatrasya <u>So</u> col
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 46.9 MCMM _{cm} : 8.0 Max. Observed MH: 200	ull tacuri Siloo ylebil Silyatrasya <u>So</u> col
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 46.9 MCMM _f : 8.0 Max. Observed MH: 200 MCMM _f : 70.3	MTBCM: 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 46.9 MCMM _{cm} : 8.0 Max. Observed MH: 200 MCMM _{cm} : 70.3	ull tacum Siloonia Siloonia Siloonia
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintena MTBCM: 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 46.9 MCMM _{cm} : 8.0	ull tacuri Siloo ylebil Silyatrasya <u>So</u> col
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 7229 90% Confidence Interval Upper Limit: 26524 Lower Limit: 2797 sinability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 46.9 MCMM _{cm} : 8.0 Max. Observed MH: 200 MCMM _{cm} : 70.3 Variance: 12616	ull tacuri Siloo ylebil Silyatrasya <u>So</u> col

Noun Name: 400 Hertz M/G Set	100 30 No.	
General Description: Motor Generator 250	V DC 100 HP 480 V AC 6	4 KW
CID/APL Number(s): 181040050	Federal Stock Number: None *(1)	
Equipment Identification Code: QDOO		
Technical Manual: 363-1050		
Manufacturer: 92392 Allis Chalmers Mfg.	Co. West Allis Plant - Mil	waukee
SSBN 640,641,642,643,644,645 Ship Population:655,656,657,658,659; Equip. Population in Data Base: 24 Utilization Factors: S: A = 0.50, B = 0.50	Equip. Population/Ship: 2 ea/s Data Assessment Period: 7/1/67	
Total Equip. Operating Time (hours): 210528		
Total Number of: Failures (CM _f): 54	Corrective Maintenance Events (CM):	183
Total CM _f Repair Man-Hours: 1657	Total CM Repair Man-Hours:	6121
Maintenance Factors:	0.67	
90% Confidence Interval Upper Limit: 4953 Lower Limit: 3108	90% Confidence Interval Upper Limit: 1305 Lower Limit: 1018	110/10/2 (100)
	bility Indices Corrective Maintenance — (All Events)	State of the section
Failure Events Only)	6600	
MTTR _f : 20.5	MTTR _{cm} :	
MCMM _f :	MCMM _{cm} : 8.0	
Max. Observed MH: 833		Max. June
MCMM _f :30.7 Variance:15188	MCMM _{cm} : 33.5 Variance: 10052	
Indicated Distribution(s): Exponential	Normal Log	Normal X
*REMARKS: *(1) Dwg No. 51-003-320;		

Noun Name: 400 Hertz M/G Set	A STATE OF THE STA
General Description: Motor Generator 44	O V AC 25 HP 120 V AC 10 KW
CID/APL Number(s):181070061	Federal Stock Number: None *(1)
Equipment Identification Code: QDOO	CONTROL MARKET BENEVALUE OF THE PROPERTY OF TH
Technical Manual: 363-0842	
Manufacturer: 07860 Bouge Electric Mf	g. Co.
B	Sasic Data
Ship Population: DE 1033	Equip. Population/Ship: 2 ea/DE
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00, B = 0.	Data Assessment Period: $7/1/67 - 6/30/69$ 20, C = 0.05
Total Equip. Operating Time (hours): 23821	
	Corrective Maintenance Events (CM):O
Total CM. Repair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors:	
MTBCM _f : 34366 **	MTBCM: 34366 **
90% Confidence Interval	90% Confidence Interval
Upper Limit:	Upper Limit:
Lower Limit:	Lower Limit:
Maintai	inability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Spilling Streets Cody
MTTR _f :O	MTTR _{cm} :
MCMM _f :O	MCMM _{cm} :O
Max. Observed MH:O	Max. Observed MH:O
MCMM _f :O	MCMM _{cm} :O
Variance:	Variance:O
Indicated Distribution (s): Exponential	Normal Log Normal
*REMARKS: *(1) J.D-Model-4093B: Dwg	x-No-DM-0095-02;
** The highest calculated operat	ing time for an equipment in this
study is 6824 hours.	

AC-DC M/C Sat	
Noun Name: AC-DC M/G Set General Description: Motor Generator	400V AC 15 HP 350V DC 7.5 KW
CID/APL Number(s): 181120037	Federal Stock Number: None Dwg. No. N-50661
	QM00000/4705000
Equipment Identification Code:	4,100000,410,000
Technical Manual: 363-0663 Manufacturer: 14237 Continental Elec	tria Co. Tro
Manufacturer: 14231 Contential Elec	crie co., inc.
	Basic Data
Ship Population: DD 941, 942, DDG	31 Equip. Population/Ship: 2 ea/DD; DDG
Equip. Population in Data Base:	6 Data Assessment Period: 7/1/67 - 6/30/69 0.05; C = 0.00
Utilization Factors: DD-S: A = 0.50; B =	0.05; C = 0.00
Total Equip. Operating Time (hours):	21615
Total Number of: Failures (CMf):	O Corrective Maintenance Events (CM):
Total CM _e Repair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors:	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 31263* (1) 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM:
Mainta	ainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :	MTTR _{cm} :
MCMM _f :	MCMM _{cm} :
Max. Observed MH:	Max. Observed MH:
MCMM _f :	MCMM _{cm} :
Variance:	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) Maximum observed edward 4468 hours. **Reliability Publication 933-02-3-1153, dated	quipment operate time during this study indices developed for ARINC Research

General Description:	Motor Generate	or 440V AC 90 HP 450V	AC 60 KW
CID/APL Number(s):			
Equipment Identification C			sign Report Consumer
Technical Manual:			prosed and a
Manufacturer: 14237 Co.		ric Co. Inc.	The Control of the Co
		Basic Data	
		11; Equip. Population/Ship	
		Data Assessment Period	
Utilization Factors: DDG	-S:A=0.45;B=0.3	3;C=0.00/DLG-S;A=0.33;	B=0.33;C=0.00
Total Equip. Operating Tim			
Total Number of: Failur	res (CM _f): 4	Corrective Maintenance Even	its (CM):11
Total CM. Repair Man-Hou	rs: 89	Total CM Repair Man-Hours	288
Maintenance Factors:			
	Relia	bility Indices **	
Mean Time Between Failur	entico provincia anchi pe	bility Indices ** Mean Time Between Correct	ive Maintenance
(Forced Shutdown Co	e rrective Maintenance)	Mean Time Between Correct	avolunts berney
(Forced Shutdown Co	e rrective Maintenance)	Mean Time Between Correct MTBCM: 14462	arounds brings
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv	e rrective Maintenance) val	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva	de sestatori en
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv Upper Limit:	e rrective Maintenance) val 116291	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit:	ul 25784
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv	e rrective Maintenance) val 116291	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva	ul 25784
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv Upper Limit:	e rrective Maintenance) val 116291 17373	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit:	ul 25784
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv Upper Limit: Lower Limit:	rrective Maintenance) val 116291 17373 Maintai	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit: Lower Limit: inability Indices	25784 8737
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (rrective Maintenance) val 116291 17373 Maintai	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit: Lower Limit: inability Indices	25784 8737
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only)	rrective Maintenance) val 116291 17373 Maintai	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit: Lower Limit: inability Indices Corrective Maintenance — (A	25784 8737
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f : 14.8	rrective Maintenance) val 116291 17373 Maintai	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit: Lower Limit: inability Indices Corrective Maintenance — (A	25784 8737
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f : 14.8	rrective Maintenance) val 116291 17373 Maintai	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit: Lower Limit: inability Indices Corrective Maintenance — (A	25784 8737 All Events)
(Forced Shutdown Commander of Shutdown Commander of Shutdown Commander of Shutdown Commander of Shutdown Corrective Maintenance — (Failure Events Only) MTTR _f :	rrective Maintenance) val 116291 17373 Maintai	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit: Lower Limit: inability Indices Corrective Maintenance — (A MTTR _{cm} : 17.4 MCMM _{cm} : 4.5 Max. Observed MH: MCMM _{cm} : 26.2	25784 8737 All Events)
(Forced Shutdown Co MTBCM _f : 39772 90% Confidence Interv Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f : 14.8 MCMM _f : 7.8 Max. Observed MH:	rrective Maintenance) val 116291 17373 Maintai	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit: Lower Limit: inability Indices Corrective Maintenance — (A MTTR _{cm} : 17.4 MCMM _{cm} : 4.5 Max. Observed MH:	25784 8737 All Events)
(Forced Shutdown Co MTBCMf: 39772 90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTRf: 14.8 MCMMf: 7.8 Max. Observed MH: MCMMf: 22.1	rrective Maintenance) val 116291 17373 Maintai Forced Shutdown	Mean Time Between Correct MTBCM: 14462 90% Confidence Interva Upper Limit: Lower Limit: inability Indices Corrective Maintenance — (A MTTR _{cm} : 17.4 MCMM _{cm} : 4.5 Max. Observed MH: MCMM _{cm} : 26.2	25784 8737 All Events)

oun Name: 400 Hertz M/G Set	440 V AC 150 HP 450 V AC 100 KW
eneral Description: Motor Generator	Federal Stock Number: No. N-58108
ID/APL Number(s): 101120040	Federal Stock Number: No. 11 19 100
Technical Manual:	Electric Co. Inc.
Manufacturer: 14237 Continental	Arecorre do: The:
	n. d. D.d.
DDG 2.7.8.9.11.12.	Basic Data 13.14.24: 2 ea/DDG; DLG 8,1
Ship Population: DLG 8,10,11,14;	Equip. Population/Ship: 3 ea/DLG 10.11;
Equip Population in Data Base:	Equip. Population/Ship: 3 ea/DLG 10,11; Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DDG/S: A=0.50, B	0.25,C=0.05; DLG/S: A=0.50,B=0.35,C=0.35
Total Equip Operating Time (hours):	151841
Total Number of: Failures (CM _e):3_	Corrective Maintenance Events (CM): 6
50 s	Total CM Repair Man-Hours:114
Maintenance Factors: 0.6	7
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenar	Reliability Indices Mean Time Between Corrective Maintenance nce)
(Forced Shutdown Corrective Maintenar	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance nce) MTBCM: 25306 90% Confidence Interval
(Forced Shutdown Corrective Maintenar MTBCM _f : 50613 90% Confidence Interval	Mean Time Between Corrective Maintenance nce) MTBCM:25306 90% Confidence Interval Upper Limit:58110
(Forced Shutdown Corrective Maintenar MTBCM _f : 50613	Mean Time Between Corrective Maintenance nce) MTBCM: 25306 90% Confidence Interval
(Forced Shutdown Corrective Maintenar MTBCM _f : 50613 90% Confidence Interval Upper Limit: 185693 Lower Limit: 19583	Mean Time Between Corrective Maintenance nce) MTBCM:25306 90% Confidence Interval Upper Limit:58110
(Forced Shutdown Corrective Maintenary MTBCM _f :50613 90% Confidence Interval Upper Limit:185693 Lower Limit:19583	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :50613 90% Confidence Interval Upper Limit:185693 Lower Limit:19583 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRs:13.3	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :50613 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:25306 90% Confidence Interval
(Forced Shutdown Corrective Maintenary MTBCM _f :50613 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :50613 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :50613 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :50613 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :50613	Mean Time Between Corrective Maintenance MTBCM:

General Description, Motor Congretor 270	V AC 18 HP 120 V AC 10 KW
	Federal Stock Number:None *(1)
Equipment Identification Code: QD00	
Technical Manual: 363-0918	1 - 1 - C - T -
Manufacturer: 14237 Continental Elec	etric Co. Inc.
	Basic Data 2 ea/LST; AE 23;
AE 23, 25;	2 ea/LST; AE 23; Equip. Population/Ship: 1 ea/AE 25
Ship Population: LSI II(), III(),	Data Assessment Period: 7/1/67 - 6/30/6
Equip. Population in Data Base:	C-0 0. IST/S: A-0 05 B-0 0 C-0 0
	C=0.0; LST/S: A=0.05,B=0.0,C=0.0
Total Equip. Operating Time (hours): 222	2 11 Miles 2 12 (CM) 3
	Corrective Maintenance Events (CM):3
Total CM, Repair Man-Hours: 104	Total CM Repair Man-Hours:112
Maintenance Factors:	
	ability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1111	Mean Time Between Corrective Maintenance MTBCM: 740
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1111 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1111 90% Confidence Interval Upper Limit: 6253	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval Upper Limit: 2717
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1111 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1111 90% Confidence Interval Upper Limit: 6253 Lower Limit: 353	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval Upper Limit: 2717
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1111 90% Confidence Interval Upper Limit: 6253 Lower Limit: 353 Mainta	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval Upper Limit: 2717 Lower Limit: 287
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1111 90% Confidence Interval Upper Limit: 6253 Lower Limit: 353	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval Upper Limit: 2717 Lower Limit: 287
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1111 90% Confidence Interval Upper Limit: 6253 Lower Limit: 353 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval Upper Limit: 271.7 Lower Limit: 287 ainability Indices Corrective Maintenance — (All Events) MTTRom: 24.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval Upper Limit: 271.7 Lower Limit: 287 ainability Indices Corrective Maintenance — (All Events) MTTRom: 24.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1111 90% Confidence Interval Upper Limit: 6253 Lower Limit: 353 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval Upper Limit: 271.7 Lower Limit: 287 ainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 740 90% Confidence Interval Upper Limit: 271.7 Lower Limit: 287 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 24.9 MCMM _{cm} : 8.3 Max. Observed MH: 100 MCMM _{cm} : 37.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 740 90% Confidence Interval Upper Limit: 271.7 Lower Limit: 287 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 24.9 MCMM _{cm} : 8.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 740 90% Confidence Interval Upper Limit: 271.7 Lower Limit: 287 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 24.9 MCMM _{cm} : 8.3 Max. Observed MH: 100 MCMM _{cm} : 37.3

Noun Name: 400 Hertz M/G Set	EV AC HE UP HEAV AC 20 VV
General Description: Motor Generator 27	
	Federal Stock Number: 286125-808-8378
Equipment Identification Code: QD00000	
Technical Manual: 363-0971	
Manufacturer: 14237 Continental Electr	ric Co Inc.
SES EN LINE BY S	ic Data
Ship Population: DD 786,790,826,839;	Equip. Population/Ship: 2 ea/DD;
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DD-S: A = 0.50; B = (0.30; C = 0.00;
Total Equip. Operating Time (hours): 38889	
	Corrective Maintenance Events (CM): 5
Maintenance Factors:0.67	Total CM Repair Man-Hours: 84
Maintenance Factors:	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 19445 90% Confidence Interval Upper Limit: 108025	Upper Limit: 19731
Lower Limit: 6171	Lower Limit: 3698
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Patron Calculation Codes
MTTR _f :1.0 MCMM _f :1.6	MTTR _{cm} : 11.2
	MCMM _{cm} :
Max. Observed MH: _3	Max. Observed MH: 78
MCMM _f :1.6	MCMM _{cm} : 16.7
Variance:4	Variance: 1174
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: **Reliability indices dev 933-02-3-1153, dated December 1971	eloped for ARINC Research Publication

	1100067	V AC 300 HP 450 V	JIQII
		_ Federal Stock Number: N62	
		1960000	
Technical Manual: 363-			
Manufacturer: 14237 C	ontinental Elect	cric Co. Inc.	
	В	asic Data	
Ship Population DLG 29	, 30, 31, 32	Equip. Population/Ship:	3 ea/DLG
Equip Population in Data	Base: 12	Data Assessment Period:	7/1/67 - 6/30/6
Utilization Factors: S:	A = 0.42, B = 0.	33. C = 0.33	
Total Equip. Operating Tim	ne (hours):	7579	
Total Number of: Failur	res (CM _f):3	Corrective Maintenance Events	(CM): 16
Total CM Pensir Man Hou	61	Total CM Repair Man-Hours:	157
Maintenance Factors:		_ Total Ow Repair Main-110 at 5.	
Manifellance Pactors.			
(Forced Shutdown Co	escando aperado será	progress tright encount	e Maintenance
MTBCM _f : 25859 90% Confidence Interv	e rrective Maintenance) val	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval	(Aurosi stationes (in CMp 20% Contribute Into
(Forced Shutdown Co MTBCM _f : 25859 90% Confidence Inter- Upper Limit:	e rrective Maintenance) val 94875	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7	730
(Forced Shutdown Co	e rrective Maintenance) val 94875	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval	730
(Forced Shutdown Co MTBCM _f : 25859 90% Confidence Inter- Upper Limit:	val 94875 10005	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3	730
(Forced Shutdown Co MTBCM _f : 25859 90% Confidence Interv Upper Limit: Lower Limit:	e rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3	730
(Forced Shutdown Co MTBCM _f : 25859 90% Confidence Interv Upper Limit: Lower Limit:	e rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3	730
(Forced Shutdown Commander 25859 90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only)	e rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3	730
(Forced Shutdown Commander 19859 90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTRs:13.6	e rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3 inability Indices Corrective Maintenance — (All	730
(Forced Shutdown Commander 19859 90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f :13.6 MCMM _f :20.0	rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit:	730 192 I Events)
(Forced Shutdown Commander Shutdown Commander Shutdown Commander Shutdown Commander Shutdown Commander Shutdown	rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3 inability Indices Corrective Maintenance — (All MTTR _{cm} : 6.5 MCMM _{cm} : 4.0 Max. Observed MH: 4	730 192 I Events)
(Forced Shutdown Commander Shutdown Commander Shutdown Commander Shutdown Commander Shutdown Commander Shutdown	rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3 inability Indices Corrective Maintenance — (All MTTR _{cm} : 6.5 MCMM _{cm} : 4.0 Max. Observed MH: 4 MCMM _{cm} : 9.8	730 192 I Events)
(Forced Shutdown Commander 19859 90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f :13.6 MCMM _f :20.0	rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3 inability Indices Corrective Maintenance — (All MTTR _{cm} : 6.5 MCMM _{cm} : 4.0 Max. Observed MH: 4	730 192 I Events)
(Forced Shutdown Commander Shutdown Commander Shutdown Commander Shutdown Commander Shutdown Commander Shutdown	rrective Maintenance) val 94875 10005 Maintai	Mean Time Between Corrective MTBCM: 4848 90% Confidence Interval Upper Limit: 7 Lower Limit: 3 inability Indices Corrective Maintenance — (All MTTR _{cm} : 6.5 MCMM _{cm} : 4.0 Max. Observed MH: 4 MCMM _{cm} : 9.8	730 192 I Events)

Noun Name: 400 Hertz M/G Set		
General Description: Motor Generator	440V AC 300 HP 450V	AC 200 KW
CID/APL Number(s): 181120067	Federal Stock Number: None	(N62484 same ID)
Equipment Identification Code:	QD00000/4703000	. 0
Technical Manual: 363-1113		
Manufacturer: 14237 Continental Ele	ectric Co., Inc.	
	Basic Data	
Ship Population: DLG 29, 30, 31,	32 Equip. Population/Ship:	3 ea/DLG
Equip. Population in Data Base:	12 Data Assessment Period	: 7/1/67 - 6/30/69
Utilization Factors: DLG-S: A = 0.33; B	= 0.33; 0 = 0.00	
Total Equip. Operating Time (hours):	56080	
Total Number of: Failures (CM _f):	O Corrective Maintenance Even	ts (CM): 3
Total CM _f Repair Man-Hours: 58	Total CM Repair Man-Hours:	61
Maintenance Factors:	0.67	
(Forced Shutdown Corrective Maintenance)	Medi Tille Between Confect	
(Forced Shutdown Corrective Maintenance)	Mean Time Between Correction MTBCM: 18693 90% Confidence Interval	THE SECRETARY OF SHEET
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval	MTBCM: 18693 90% Confidence Interval Upper Limit:	68474
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1)	MTBCM: 18693	68474
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit:	MTBCM: 18693 90% Confidence Interval Upper Limit:	68474
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 18693 90% Confidence Interval Upper Limit:	68474
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit:	68474 7226
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A	68474 7226
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A	68474 7226
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 38.3 MCMM _f : 0.0	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 13.5 MCMM _{cm} : 2.5	68474 7226
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 38.3 MCMM _f :0.0 Max. Observed MH:0.0	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 13.5 MCMM _{cm} : 2.5 Max. Observed MH:	68474 7226
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 38.3 MCMM _f : 0.0 Max. Observed MH: 0.0 MCMM _f : 57.5	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 13.5 MCMM _{cm} : 2.5 Max. Observed MH: MCMM _{cm} : 20.3	68474 7226
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 38.3 MCMM _f :0.0 Max. Observed MH:0.0	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 13.5 MCMM _{cm} : 2.5 Max. Observed MH:	68474 7226
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 38.3 MCMM _f : 0.0 Max. Observed MH: 0.0 MCMM _f : 57.5	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 13.5 MCMM _{cm} : 2.5 Max. Observed MH: MCMM _{cm} : 20.3	68474 7226
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 38.3 MCMM _f : 0.0 Max. Observed MH: 0.0 MCMM _f : 57.5 Variance: 0 Indicated Distribution (s): Exponential	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 13.5 MCMM _{cm} : 2.5 Max. Observed MH: MCMM _{cm} : 20.3 Variance: 1040 Normal	68474 7226 Il Eventa) 58
(Forced Shutdown Corrective Maintenance) MTBCM _f : 81118* (1) 90% Confidence Interval Upper Limit: Lower Limit: Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 38.3 MCMM _f : Max. Observed MH: Max. Observed MH: Variance: Indicated Distribution(s): Exponential *REMARKS: (1) Max1mum observed equations.	MTBCM: 18693 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 13.5 MCMM _{cm} : 2.5 Max. Observed MH: MCMM _{cm} : 20.3 Variance: 1040 Normal	68474 7226 Il Events) 58 Log Normal uring this study w

General Description: Motor Generator	440 V AC 50 HP 450 V AC 30 KW
CID/APL Number(s): 181240026	Federal Stock Number: 2S6125-818-3708
Equipment Identification Code: QDOO	PER CONTROL OF TRANSPORT AND ADDRESS AND A
Technical Manual: None	18830-137 Heavel Inc.
Manufacturer: 19956 Electric Prod	ducts Co.
	Basic Data
DDG 15,16,17,18,19;	; a lating of the Board of the
Ship Population: DLG 18, 19, 22, 23;	Equip. Population/Ship: 3 ea/DDG; DLG Data Assessment Period: 7/1/67 - 6/30/
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/36/ 0.33,C=0.05; DLG/S: A=0.17,B=0.17,C=0.10
Total Equip. Operating Time (hours):	110805
Total Number of Failures (CM.): 32	Corrective Maintenance Events (CM): 91
Total Number of: Failures (CM).	1324
Total CM _f Repair Man-Hours: 583	Total CM Repair Man-Hours:1324
Maintenance Factors:0.67	
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenar	nce)
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462	MTBCM: 1217 90% Confidence Interval
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462	MTBCM: 1217 90% Confidence Interval
90% Confidence Interval Upper Limit: 4756	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval Upper Limit: 4756 Lower Limit: 2578	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval Upper Limit: 4756 Lower Limit: 2578	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460 Lower Limit: 1023 Maintainability Indices
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval Upper Limit: 4756 Lower Limit: 2578 N Corrective Maintenance — (Forced Shutdown	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460 Lower Limit: 1023 Maintainability Indices
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval Upper Limit: 4756 Lower Limit: 2578 Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460 Lower Limit: 1023 Maintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval Upper Limit: 4756 Lower Limit: 2578 N Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.1	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460 Lower Limit: 1023 Maintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460 Lower Limit: 1023 Maintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460 Lower Limit: 1023 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.7 MCMM _{cm} : 4.0 Max. Observed MH: 215
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460 Lower Limit: 1023 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.7 MCMM _{cm} : 4.0
(Forced Shutdown Corrective Maintenar MTBCM _f : 3462 90% Confidence Interval Upper Limit: 4756 Lower Limit: 2578 N Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.1 MCMM _f : 6.0 Max. Observed MH: 215 MCMM _f : 18.2	MTBCM: 1217 90% Confidence Interval Upper Limit: 1460 Lower Limit: 1023 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.7 MCMM _{cm} : 4.0 Max. Observed MH: 215 MCMM _{cm} : 14.6 Variance: 856

C	z M/G Set		1913	SANCE OF SERVICE OF
General Description:	Motor Ge	nerator	440V AC 50 HP 450V	AC 30 KW
			Federal Stock Number: 286	
Equipment Identification C	ode:	QD00000	0/4703000	ed sett leteral vergen
Technical Manual:	363-0926			to a self-to-ball
Manufacturer: 19956 E			Co.	Teles eminutes
		Basic	Data	
DDG 17	, 18, 19;	DLG 18,	19,	3 ea/DLG;
Ship Population: 20,22,	23;	Lawrence .	Equip. Population/Ship:	4 ea/DDG;
Equip. Population in Data	Base:	27	Data Assessment Period	: 7/1/67 - 6/30/69
			0.00;/DLG-S:A=0.33;B	=0.33;C=0.00;
Total Equip. Operating Tim	ne (hours):	110144		a <u>n, i anterett gudi s</u>
Total Number of: Failur	res (CM _f):	34	Corrective Maintenance Even	ts (CM):
Total CM _f Repair Man-Hou	340		Total CM Repair Man-Hours:	1374
Maintenance Factors:		0.67	Total Civi Itepati Mail House	A THE PART SOMETHING
MTDCM . 324U				
MTBCM _f : 3240 90% Confidence Inter- Upper Limit: Lower Limit:	4260	des See eggi eggi	90% Confidence Interva Upper Limit: Lower Limit:	1010
90% Confidence Inter- Upper Limit:	4260	irgg(i) iron3	90% Confidence Interva Upper Limit:	1010
90% Confidence Inter- Upper Limit: Lower Limit:	4260 2373	- Maintainab	90% Confidence Interva Upper Limit: Lower Limit:	1010 748
90% Confidence Interduper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only)	4260 2373	- Maintainab	90% Confidence Interva Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A	1010 748
90% Confidence Interduce Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f :6.9	4260 2373	- Maintainab	90% Confidence Interva Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A MTTR _{cm} :7_2	1010 748
90% Confidence Interduce Upper Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f :6.9	4260 2373 Forced Shutdo	- Maintainab	90% Confidence Interva Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A MTTR _{cm} :7_2 MCMM _{cm} :3_0 Max. Observed MH:	1010 748
Onfidence Interduce Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f :	4260 2373 Forced Shutdo	- Maintainab	90% Confidence Interva Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A MTTR _{cm} :7.2 MCMM _{cm} :3.0 Max. Observed MH: MCMM _{cm} :10.8	1010 748
Onfidence Interduce Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (Failure Events Only) MTTR _f :	4260 2373 Forced Shutdo	- Maintainab	90% Confidence Interva Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A MTTR _{cm} :7_2 MCMM _{cm} :3_0 Max. Observed MH:	1010 748
90% Confidence Interduper Limit:	4260 2373 Forced Shutdo 90 Exponential	Maintainal	90% Confidence Interva Upper Limit: Lower Limit: Dility Indices Corrective Maintenance — (A MTTR _{cm} :	1010 748 Ill Events)
90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance - (Failure Events Only) MTTR _f : 6.9 MCMM _f : 3.0 Max. Observed MH: MCMM _f : 10.3 Variance: 336 Indicated Distribution(s):	4260 2373 Forced Shutdo 90 Exponential	Maintainal	90% Confidence Interva Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (A MTTR _{cm} :	1010 748 Ill Events)
90% Confidence Intervention Upper Limit: Lower Limit: Corrective Maintenance - (Failure Events Only) MTTR _f : 6.9 MCMM _f : 3.0 Max. Observed MH: MCMM _f : 10.3 Variance: 336 Indicated Distribution(s):	4260 2373 Forced Shutdo 90 Exponential	Maintainab wn	90% Confidence Interva Upper Limit: Lower Limit: Dility Indices Corrective Maintenance — (A MTTR _{cm} :	1010 748 Ill Events)

General Description: Motor Generator 4	140 V AC HP. 450 V AC 200 KW
CID/APL Number(s): 181240028	Federal Stock Number: No. H-08537
Equipment Identification Code: QDOO	
Technical Manual: None	
Manufacturer: 19956 Electric Product	cs Co.
	Basic Data
Ship Population: DLG 18, 19, 22, 23, 28, 33	Equip. Population/Ship: 3 ea/DLG
Equip. Population in Data Base:18	Data Assessment Period: 7/1/67 - 6/30/6
	0.33, C = 0.33
Total Equip. Operating Time (hours):1	15395
Total Number of: Failures (CM _f): 3	Corrective Maintenance Events (CM):4
Total CM _f Repair Man-Hours:61	Total CM Repair Man-Hours:62
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure	12000 (120003100)
Mean Time Between Failure	12000 (120003100)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval Upper Limit: 84458
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval Upper Limit: 84458
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883 Mainta	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval Upper Limit: 84458 Lower Limit: 12607
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883 Mainta	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.5	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.5 MCMM _f : 2.1	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.5 MCMM _f : 2.1 Max. Observed MH: 56	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.5 MCMM _f : 2.1 Max. Observed MH: 56	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.5 MCMM _f : 2.1 Max. Observed MH: 56	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 38465 90% Confidence Interval Upper Limit: 141121 Lower Limit: 14883 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.5 MCMM _f : 2.1 Max. Observed MH: 56	Mean Time Between Corrective Maintenance MTBCM: 28848 90% Confidence Interval

Noun Name: 400 Hertz M/G Set	ILLION AC UD LEON AC OCC MIT
General Description: Motor Generator	
CID/APL Number(s): 181240028 Equipment Identification Code: QDC	Federal Stock Number: None (No-H-08537-ID
Technical Manual: 363-1020 & 363-1	
Manufacturer: 19956 Electric Produc	ets Co.
•	
	Basic Data
Ship Population, DLG 18.19.20.22.23.2	28,33; Equip. Population/Ship: 3 ea/DLG;
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG-S: A = 0.33; B	
Total Equip. Operating Time (hours): 919	
	Corrective Maintenance Events (CM): 7
	Total CM Repair Man-Hours: 62
Maintenance Factors:0.6	7
Re Mean Time Between Failure	eliability Indices * * Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990	Mean Time Between Corrective Maintenance MTBCM: 13141 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 13141
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391	Mean Time Between Corrective Maintenance MTBCM: 13141 90% Confidence Interval Upper Limit: 27978
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391 Main	MTBCM: 13141 90% Confidence Interval Upper Limit: 27978 Lower Limit: 6992
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391 Main Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 13141 90% Confidence Interval Upper Limit: 27978 Lower Limit: 6992
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 13141 90% Confidence Interval Upper Limit: 27978 Lower Limit: 6992 Maintenance — (All Events) MTTRom: 5.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.7	Mean Time Between Corrective Maintenance MTBCM: 13141 90% Confidence Interval Upper Limit: 27978 Lower Limit: 6992 Maintenance — (All Events) MTTRom: 5.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.7	Mean Time Between Corrective Maintenance MTBCM: 13141 90% Confidence Interval Upper Limit: 27978 Lower Limit: 6992 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.9 MCMM _{cm} : 4.0 Max. Observed MH: 21
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.7 MCMM _f : 0.0 Max. Observed MH: 0	Mean Time Between Corrective Maintenance MTBCM: 13141 90% Confidence Interval Upper Limit: 27978 Lower Limit: 6992 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.9 MCMM _{cm} : 4.0 Max. Observed MH: 21
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.7 MCMM _f : 0.0	MTBCM: 13141 90% Confidence Interval Upper Limit: 27978 Lower Limit: 6992 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.9 MCMM _{cm} : 4.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 91990 90% Confidence Interval Upper Limit: 1703519 Lower Limit: 19391 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.7 MCMM _f : 0.0 Max. Observed MH: 0 MCMM _f : 16.0	MTBCM: 13141 90% Confidence Interval Upper Limit: 27978 Lower Limit: 6992 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.9 MCMM _{cm} : 4.0 Max. Observed MH: 21 MCMM _{cm} : 8.8

Noun Name: 400 Hertz M/G Set	
General Description: Motor Generator 440	V 100 HP 450 V 60 KW
CID/APL Number(s): 181240029	
Equipment Identification Code: QDOO	
Technical Manual: 363-1045	
Manufacturer: 19956 Electric Products	co.
DEG 1, 2, 4, 5;	asic Data
Ship Population: DLG 29,30,31,32,33;	Equip. Population/Ship: 2 ea/DEG; 3 ea/DL
Equip. Population in Data Base: 23	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DEG/S: A=0.25, B=0.10,	C=0.10; DLG/S: A=0.17, B=0.17, C=0.10
Total Equip. Operating Time (hours):56	088
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):2
Total CM _f Repair Man-Hours:	70
Maintenance Factors:	0.67
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 157839
Lower Limit:	Lower Limit: 8909
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :O	MTTR _{cm} : 23.3
MCMM _f :	MCMM _{cm} :35.0
Max. Observed MH:	Max. Observed MH: 45
MCMM _f :O	MCMM _{cm} : 35.0
Variance:O	Variance: 200
Indicated Distribution(s): Exponential	Normal Log Normal
	ated operating time for an equipment
in this study is 2814 hours.	

eneral Description: Motor Generator	440 V AC 50 HP 450 V AC 30 KW
CID/APL Number(s): 181240030	Federal Stock Number: No. H-08574
Equipment Identification Code: QDOO	a bed from the some Code
Technical Manual: None	The second secon
Manufacturer: 19956 Electric Product	ts Co.
I	Basic Data
Ship Population: DDG 20,21,24; DLG 28	Equip. Population/Ship: 3 ea/DDG; DLG
Equip Population in Data Rase: 12	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: DDG/S: A=0.46, B=0.33	3,C=0.05; DLG/S: A=0.17,B=0.17,C=0.10
Total Equip. Operating Time (hours):5998	38
Total Number of: Failures (CM _f): 6	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 466	
Maintenance Factors:	
Pali	ability Indices
10CH	aomty muices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	erosensichte verbeggen über park berocht-
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998	MTBCM: 4999
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval	MTBCM: 4999 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval Upper Limit: 22958	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval Upper Limit: 22958	MTBCM: 4999 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval Upper Limit: 22958 Lower Limit: 5066	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval Upper Limit: 22958 Lower Limit: 5066	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval Upper Limit: 22958 Lower Limit: 5066 Mainte	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval Upper Limit: 22958 Lower Limit: 5066	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085 ainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval Upper Limit: 22958 Lower Limit: 5066 Mainta	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085 ainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 9998 90% Confidence Interval	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 29.7 MCMM _{cm} : 20.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 29.7 MCMM _{cm} : 20.0 Max. Observed MH: 273
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 29.7 MCMM _{cm} : 29.0 Max. Observed MH: 273 MCMM _{cm} : 44.6
(Forced Shutdown Corrective Maintenance) MTBCM _f :998 90% Confidence Interval	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 29.7 MCMM _{cm} : 20.0 Max. Observed MH: 273
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 4999 90% Confidence Interval Upper Limit: 8664 Lower Limit: 3085 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 29.7 MCMM _{cm} : 29.0 Max. Observed MH: 273 MCMM _{cm} : 44.6

V AC 450 V AC 30 KW Federal Stock Number: No-N08606
Federal Stock Number: No-N08606
. Touch block itemsor. He had be
Co.
sic Data l ea/DEG l; l ea/DDG, LF
sic Data
(1) Equip. Population/Ship: 2 ea/DD, DE, DEG 2 Data Assessment Period: 7/1/67 - 6/30/69
=0.00; DE/S: A=1.00,B=0.20,C=0.05; *(2
_ Corrective Maintenance Events (CM):
_ Total CM Repair Man-Hours:
a yadada
ility Indices
Mean Time Between Corrective Maintenance
Mean Time Devices Corrective Management
2710
MTBCM:3712
90% Confidence Interval
Upper Limit: <u>4408</u> Lower Limit: <u>3147</u>
Lower Limit: 3147
M. Selection Co.
ability Indices
Corrective Maintenance — (All Events)
MTTR _{cm} :13.6
MCMM _{cm} :6.0
Max. Observed MH: 405
MCMM _{cm} : 20.5
Variance: 2006
entherived Distribution (a). Expenses in Land
Normal Log NormalX
,30,31,32,33; LPD 4,5,6; *(2) DEG 1/S:
: A=0.60,B=0.60,C=0.10; LPD/S: A=1.00,
3,C=0.0;DDG/S: A=0.46,B=0.33,C=0.05;
i .

D/API, Number(s)	Motor Gene 181240036	rator 440V AC 450V AC 30 KW Federal Stock Number: 286125-088-1523
quipment Identification		QD00000/4703000
echnical Manual:	262 222	emercial in at Micristry Color (W.C.)
Manufacturer: 19956 F		lucts Co.
		Basic Data
Ship Population: DD782,	783.806.818.819	9,820*(1) Equip. Population/Ship: 2 ea/DD; *(2)
Equip. Population in Data		58 Data Assessment Period: 7/1/67 - 6/30/69
		g; C=0.00/DE-S: A=0.5; B=0.5 C=0.00/*(3)
Total Equip. Operating Ti		
Total Number of: Failu		19 Corrective Maintenance Events (CM): 54
Total CM _f Repair Man-Ho	Marcon Potent	
Maintenance Factors:		16tai CM Repair Man-Hours:
Mean Time Between Failu (Forced Shutdown Co		Mean Time Between Corrective Maintenance
(Forced Shutdown Co		
(Forced Shutdown Country 14625) 90% Confidence Interest	orrective Maintenan	MTBCM:5146 90% Confidence Interval
(Forced Shutdown ConTBCM _f : 14625 90% Confidence Inter Upper Limit:	orrective Maintenan rval 22326	MTBCM: 5146 90% Confidence Interval Upper Limit: 6538
(Forced Shutdown ConTBCM _f : 14625 90% Confidence Inter	orrective Maintenan rval 22326	MTBCM:5146 90% Confidence Interval
(Forced Shutdown ConTBCMf: 14625 90% Confidence Inter Upper Limit:	orrective Maintenan rval 22326 9966	MTBCM: 5146 90% Confidence Interval Upper Limit: 6538
90% Confidence Inter Upper Limit:	rval 22326 9966	MTBCM:5146
(Forced Shutdown Country 14625 90% Confidence Interest Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only)	rval 22326 9966	MTBCM:5146
(Forced Shutdown Country 14625 90% Confidence Interpretation Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only)	rval 22326 9966	MTBCM:5146
(Forced Shutdown Community of the Community of the Confedence Intervention of the Corrective Maintenance — Failure Events Only) MTTR _f : 13.3 MCMM _f : 13.3	rval 22326 9966 M (Forced Shutdown	MTBCM:5146
(Forced Shutdown Country of the Confedence Intervention of the Country of the Corrective Maintenance — Failure Events Only) MTTR _f : 13.3 MCMM _f : 13.3 Max. Observed MH:	rval 22326 9966 M (Forced Shutdown	MTBCM:5146
(Forced Shutdown Community of the Confedence Intervention of the Corrective Maintenance — Failure Events Only) MTTR _f : 13.3 Max. Observed MH: 20.0	rval 22326 9966 M (Forced Shutdown	MTBCM:5146
(Forced Shutdown Community of the Confedence Intervention of the Corrective Maintenance — Failure Events Only) MTTR _f : 13.3 MCMM _f : 13.3 Max. Observed MH: 20.0	rval 22326 9966 M (Forced Shutdown	MTBCM:5146
(Forced Shutdown Country 14625 90% Confidence Interpretation of Lower Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :13.3 Max. Observed MH:	rval 22326 9966 M (Forced Shutdown	MTBCM:5146
(Forced Shutdown Control of the Confidence Intervention of the Confidence Indicated Distribution of the Confidence Intervention of the C	rval 22326 9966 M (Forced Shutdown 62 Exponential 851,852,870,871	MTBCM:5146
(Forced Shutdown Control of the Confidence Intervention of the Corrective Maintenance — Failure Events Only) ATTR _f : 13.3 ACMM _f : 13.3 Max. Observed MH: 20.0 Variance: 368 Indicated Distribution (s): REMARKS: (1)DD836, LPD5,6,7; (2)*2ea/DE	rval 22326 9966 M (Forced Shutdown 62 Exponential 351,852,870,871 ; 2ea/DEG; 3ea/DLG;	MTBCM:5146

General Description: Motor Generator 440	O V AC 100 HP 450 V AC 60	KW
	Federal Stock Number: None *(1)	
Equipment Identification Code: QDOO		
Cechnical Manual: 363-1089		
Manufacturer: 19956 Electric Produc	ets Co.	
	Basic Data	
Ship Population: DDG 3; LPD 4, 5, 6, 7	Equip. Population/Ship: 1 ea/D	DG; 2 ea/I
Equip. Population in Data Base:9	Data Assessment Period: 7/1/67	- 6/30/69
Utilization Factors: LPD/S: A=0.35,B=0.10	0,C=0.02; DDG/S: A=0.16,B=0.11	,C=0.015;
Total Equip. Operating Time (hours): 21	1803	· · · · · · · · · · · · · · · · · · ·
Total Number of: Failures (CM _f): 2		4
Total CM _f Repair Man-Hours: 42	Total CM Repair Man-Hours:	88
Maintenance Factors:		
Reli	ability Indices	
Reli	ability Indices	
	such codigit mas	ance
Mean Time Between Failure	ability Indices Mean Time Between Corrective Mainten	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Mainten	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901	Mean Time Between Corrective Mainten MTBCM: 5450	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 5450 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901	Mean Time Between Corrective Mainten MTBCM: 5450	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval Upper Limit: 61356	Mean Time Between Corrective Mainten MTBCM: 5450 90% Confidence Interval Upper Limit: 15958	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval Upper Limit: 61356 Lower Limit: 3463	Mean Time Between Corrective Mainten MTBCM: 5450 90% Confidence Interval Upper Limit: 15958	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval Upper Limit: 61356 Lower Limit: 3463	Mean Time Between Corrective Mainten MTBCM:5450 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval Upper Limit: 61356 Lower Limit: 3463 Maintenance	Mean Time Between Corrective Mainten MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval Upper Limit: 61356 Lower Limit: 3463 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.0	Mean Time Between Corrective Mainten MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval Upper Limit: 61356 Lower Limit: 3463 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.0 MCMM _f : 21.0	Mean Time Between Corrective Mainten MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval Upper Limit: 61356 Lower Limit: 3463 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.0 MCMM _f : 21.0 Max. Observed MH: 30	Mean Time Between Corrective Mainten MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainten MTBCM:5450 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 10901 90% Confidence Interval Upper Limit: 61356 Lower Limit: 3463 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.0 MCMM _f : 21.0 Max. Observed MH: 30	Mean Time Between Corrective Mainten MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:	

	440 V AC 100 HP 450 V AC 60 KW Federal Stock Number: No. H08860
CID/APL Number(s): 181240050	
Equipment Identification Code: QDOO	AR Sandari
Technical Manual:0963-008-9010	No. 1 to 10
Manufacturer: 19950 Electric Proc	ducts Co.
Equip. Population in Data Base: 7	Basic Data 9, 30, Equip. Population/Ship: 1 ea/DDG; DLG; Data Assessment Period: 7/1/67 - 6/30/69 0.10,C=0.10;DLG/S; A=0.17,B=0.17,C=0.1
Total Equip. Operating Time (hours):	19165
Total Number of: Failures (CMe): 3	Corrective Maintenance Events (CM):
Total CM. Repair Man-Hours:	Total CM Repair Man-Hours: 114
Maintenance Factors: 0.67	1380 Fate(2)
(Forced Shutdown Corrective Maintenau	
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenau MTBCM _f : 6388	Mean Time Between Corrective Maintenance nce) MTBCM: 2395 90% Confidence Interval
(Forced Shutdown Corrective Maintenau MTBCM _f : 6388 90% Confidence Interval Upper Limit: 23438	Mean Time Between Corrective Maintenance nce) MTBCM: 2395 90% Confidence Interval Upper Limit: 4814
(Forced Shutdown Corrective Maintenau MTBCM _f : 6388	Mean Time Between Corrective Maintenance nce) MTBCM: 2395 90% Confidence Interval
(Forced Shutdown Corrective Maintenant MTBCM _f : 6388 90% Confidence Interval Upper Limit: 23438 Lower Limit: 2472	Mean Time Between Corrective Maintenance nce) MTBCM: 2395 90% Confidence Interval Upper Limit: 4814
(Forced Shutdown Corrective Maintenant MTBCM _f : 6388 90% Confidence Interval Upper Limit: 23438 Lower Limit: 2472	Mean Time Between Corrective Maintenance nce) MTBCM:
(Forced Shutdown Corrective Maintenant MTBCM _f : 6388 90% Confidence Interval Upper Limit: 23438 Lower Limit: 2472	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenant MTBCM _f : 6388 90% Confidence Interval Upper Limit: 23438 Lower Limit: 2472 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.1	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenant MTBCM _f : 6388 90% Confidence Interval Upper Limit: 23438 Lower Limit: 2472 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.1 MCMM _f : 30.0	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenand MTBCM _f : 6388 90% Confidence Interval Upper Limit: 23438 Lower Limit: 2472 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.1 MCMM _f : 30.0 Max. Observed MH: 50	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenant MTBCM _f : 6388 90% Confidence Interval Upper Limit: 23438 Lower Limit: 2472 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 19.1 MCMM _f : 30.0	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenand MTBCMf: 6388 90% Confidence Interval Upper Limit: 23438 Lower Limit: 2472 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 19.1 MCMMf: 30.0 Max. Observed MH: 50 MCMMf: 28.7	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: AC DC M/G Set	
	or 440V AC 250V DC 23 HP 15 KW
CID/APL Number(s): 181800056	Federal Stock Number: 6125-617-0395
Equipment Identification Code: QM0000	
Technical Manual: 381-0108	
Manufacturer: 03497 General Electric	Co. Low Voltage Switchgear Dept
Manuacourer.	
R	lasic Data
Ship Population: DLG 8, 9, 10, 11, 14;	*(1) Equip. Population/Ship: 2ea/LSD; lea/DLG
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG-S: A=0.10; B=0.00	:C=0.00/LSD-S:A=0.75;B=0.50;C=0.00
Total Equip. Operating Time (hours): 8863	
Total Number of: Failures (CM _f): 0	Corrective Maintenance Events (CM):10
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:52
Maintenance Factors: 0.67	Total CW Repair Wall-Hours.
Wantenance Factors.	
	N. P. A. S. M. W.
Kella	bility Indices **
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	Note: Time Deliver Controller
	MTBCM: 886
MTBCM _f : 12820 *(2)	
90% Confidence Interval	90% Confidence Interval
Upper Limit:	Upper Limit: 1436 487
Lower Limit:	Lower Limit: 407
are the l	
Maintai	inability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :	MTTR _{cm} : 3.5
MCMM _f :	MCMM _{cm} : 1.0
Max. Observed MH:	Max. Observed MH:31.0
MCMM _f :	MCMM _{cm} : 5.2
Variance:	Variance: 91
Normal Land Section 1	
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) LSD 31.33.34.35	(2) The maximum computed equipment
operating time during this study	was 870 hours. **Reliability indices
	lication 0933-02-3-1153, dated December
	2-259

Noun Name: 400 Hertz M/G Set		
General Description: Motor Generator VA	ARVACORDC 440HP VARVACORDC	300 KW
CID/APL Number(s): 181800080		
Equipment Identification Code: QD00		CHAIL OF BUILD
Technical Manual:		ale Jamaguara
Manufacturer:		ned telephone
Be	asic Data	
Ship Population: SSN 604	Equip. Population/Ship: 2 ea/S	SSN
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67	- 6/30/69
Utilization Factors: S: A = 0.95, B = 0	0.25, C = 0.25	ERFOCK SECTO
Total Equip. Operating Time (hours):19	930	ANTHOESES PRE
Total Number of: Failures (CM _f): 0	Corrective Maintenance Events (CM):	0
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:	0
	67	nat planting
MTBCM _f : 28753** 90% Confidence Interval Upper Limit:	MTBCM: 28753** 90% Confidence Interval Upper Limit: Lower Limit:	968 Con 968 Con
Maintair	nability Indices	
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)	
PALADOD ITA \ ACRES SERVICES OF PARA	Corrective Maintenance — (All Events)	
Failure Events Only)	MTTR _{cm} :	
Failure Events Only)	naciana — Floresi Shajidowa Cac	
Failure Events Only) MTTR _f :	MTTR _{cm} : MCMM _{cm} : Max. Observed MH:	eald Microsco- cord Michael
Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: MCMM _f :	MTTR _{cm} : MCMM _{cm} : Max. Observed MH: MCMM _{cm} :	eald sensetion over motor garden over me
Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	MTTR _{cm} : MCMM _{cm} : Max. Observed MH:	eald seconds one second openion openion openion openion
MTTR _f : O	MTTR _{cm} : MCMM _{cm} : Max. Observed MH: MCMM _{cm} : Variance:	Normal
Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance:	MTTR _{cm} : MCMM _{cm} : Max. Observed MH: MCMM _{cm} : Variance: Normal Log N	

Congred Description. Motor Congretor	250V DC 65HP 130V AC 43.2 KW
	Federal Stock Number:
Equipment Identification Code: QD00	
Manufacturer:	
	Basic Data
	Equip. Population/Ship: 2 ea/SSN
	Data Assessment Period: 7/1/67 - 6/30/69
	0.25, C = 0.25
Total Equip. Operating Time (hours):3	36080
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maintenance) 52052**	Mean Time Between Corrective Maintenance
MTBCM _f : 52052**	MTBCM: 52052** 90% Confidence Interval
MTBCM _f : 52052** 90% Confidence Interval	MTBCM: 52052**
MTBCM _f : 52052**	MTBCM: 52052** 90% Confidence Interval
MTBCM _f :	MTBCM: 52052** 90% Confidence Interval Upper Limit:
MTBCM _f :52052** 90% Confidence Interval Upper Limit: Lower Limit: Mainta	MTBCM: 52052** 90% Confidence Interval Upper Limit: Lower Limit:
MTBCM _f :	MTBCM: 52052** 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events)
MTBCM _f :	MTBCM: 52052** 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :
MTBCM _f :	MTBCM:
#REMARKS:	MTBCM: 52052** 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} : Max. Observed MH: Variance: Variance:

General Description: Motor Generator Var	vacorde 440 HP Varvacorde	300 KW
CID/APL Number(s): 181800092		
Equipment Identification Code: QDOO	in the state of th	thought the of
Technical Manual:	cods(vs) autosis;	msb) za mujag
Manufacturer:		surpdy skyrensy
B	Basic Data	
Ship Population: <u>SSBN 655,657,658,659;</u>	Equip. Population/Ship: 2 ea/	SSBN
	Data Assessment Period: 7/1/67	
Utilization Factors: S: A = 1.0, B = 0		ozatenti acco
Total Equip. Operating Time (hours):1196	688	STATE WALLSTON
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM): _	0
	Total CM Repair Man-Hours:	0
Total CM _f Repair Man-Hours:	7	COMMISSION OF THE PARTY
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Mainter	nance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval	Mean Time Between Corrective Mainter MTBCM: 172673** 90% Confidence Interval	elad amil omb de Sepudit Do Geogra
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Mainter MTBCM: 172673** 90% Confidence Interval Upper Limit:	etali sariT nash de bionoliti da garansi adaa 3.500
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval	Mean Time Between Corrective Mainter MTBCM: 172673** 90% Confidence Interval	etali sariT nask de biosoft na - genars sanots com
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Mainter MTBCM: 172673** 90% Confidence Interval Upper Limit:	etali sariT nash de bionoliti da garansi adaa 3.500
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval Upper Limit: Lower Limit: Mainta	Mean Time Between Corrective Mainter MTBCM: 172673** 90% Confidence Interval Upper Limit: Lower Limit:	etali sariT nask de biosoft na - genars sanots com
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Mainter MTBCM: 172673** 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (All Events)	etali sariT nash de bionoliti da garansi adaa 3.500
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval Upper Limit: Lower Limit: Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Mean Time Between Corrective Mainter MTBCM:	etali sariT nash de bionoliti da garansi adaa 3.500
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval Upper Limit: Lower Limit: Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0 MCMM _f : 0	Mean Time Between Corrective Mainter MTBCM: 172673** 90% Confidence Interval Upper Limit: Lower Limit: Lower Limit: Minability Indices Corrective Maintenance — (All Events) MTTR _{cm} :	etali sariT nask de biosoft na - genars sanots com
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1.72673** 90% Confidence Interval Upper Limit: Lower Limit: Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	Mean Time Between Corrective Mainten MTBCM: 172673** 90% Confidence Interval Upper Limit: Lower Limit:	etali sariT nash de bionoliti da garansi adaa 3.500
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainten MTBCM:	etali sariT nash de bionoliti da garansi adaa 3.500
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 172673** 90% Confidence Interval Upper Limit: Lower Limit:	etali sariT nask de biosoft na - genars sanots com
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 172673** 90% Confidence Interval Upper Limit: Lower Limit:	etali sariT nask de biosoft na - genars sanots com

General Description: Motor Generator 44	40 V AC 100 HP 450 V AC 60 KW
CID/APL Number(s): 182800011	
Equipment Identification Code: QDOO	THE PROPERTY OF THE PROPERTY O
Technical Manual:	HOPE BY ARE
Manufacturer: 65054 Westinghouse El	lectric Corp.
	Basic Data
Obia D DDC 2 7 8 0 11 12 12 1	// 2 . 2 . 4
	Equip. Population/Ship: 3 ea/DDG
Equip. Population in Data Base: $\frac{24}{100}$ Utilization Factors: S: A = 0.46, B = 0.	Data Assessment Period: 7/1/67 - 6/30/6
Total Equip. Operating Time (hours): 17	
Total Number of: Failures (CMs): 41	Corrective Maintenance Events (CM): 88
Copy from the copy of the copy	
Total CM _f Repair Man-Hours: 2194 Maintenance Factors: 0.67	Total CM Repair Man-Hours:
Maintenance Factors:	
	of variables
Ken	ability Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 4386	MTBCM: 2043
90% Confidence Interval	90% Confidence Interval
90% Confidence Interval Upper Limit:5789	90% Confidence Interval
90% Confidence Interval Upper Limit:5789 Lower Limit:3380	Belgin sun Santa Santa Santa Santa
Upper Limit:	90% Confidence Interval Upper Limit: 2458
Upper Limit:5789 Lower Limit:3380	90% Confidence Interval Upper Limit: 2458
Upper Limit: 5789 Lower Limit: 3380 Mainta	90% Confidence Interval Upper Limit: 2458 Lower Limit: 1712
Upper Limit: 5789 Lower Limit: 3380 Mainta Corrective Maintenance — (Forced Shutdown	90% Confidence Interval Upper Limit: 2458 Lower Limit: 1712
Upper Limit: 5789 Lower Limit: 3380 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit: 2458 Lower Limit: 1712 Ainability Indices Corrective Maintenance — (All Events)
Upper Limit:5789 Lower Limit:3380 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :35.7	90% Confidence Interval Upper Limit:2458 Lower Limit:1712 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :23.8
Upper Limit:5789 Lower Limit:3380 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :35.7 MCMM _f :10.5	90% Confidence Interval Upper Limit: 2458 Lower Limit: 1712 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 23.8 MCMM _{cm} : 8.0
Upper Limit:	90% Confidence Interval Upper Limit:2458 Lower Limit:1712 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} :23.8 MCMM _{cm} :8.0 Max. Observed MH:941
Upper Limit:	90% Confidence Interval Upper Limit:2458 Lower Limit:1712 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :3.8 MCMM _{cm} :8.0 Max. Observed MH:941 MCMM _{cm} :35.7
Upper Limit:	90% Confidence Interval Upper Limit:2458 Lower Limit:1712 Annability Indices Corrective Maintenance — (All Events) MTTR _{cm} :3.8 MCMM _{cm} :8.0 Max. Observed MH:941 MCMM _{cm} :35.7 Variance:11632
Upper Limit:	90% Confidence Interval Upper Limit:2458 Lower Limit:1712 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :3.8 MCMM _{cm} :8.0 Max. Observed MH:941 MCMM _{cm} :35.7

Noun Name: AC DC M/G Set	
General Description: Motor Generat	or 440V AC 14 HP 250V DC 9 KW
CID/APL Number(s): 182800014	
Equipment Identification Code:	QM00000/4705000
Technical Manual:381-0170, 363	-0170
Manufacturer: 65054 Westinghouse	Electric Corp.
	Basic Data
	1,24; *(1) Equip. Population/Ship: 2 ea/DLG; *(2)
	43 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DDG-S: A=0.50; B=0	.05;C=0.00/DLG-S:A=0.50;B=0.00;C=0.00/*(3)
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):5
	Total CM Repair Man-Hours:6
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	(Manufacture Company)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 15019 90% Confidence Interval Upper Limit: 83436 Lower Limit: 4766	Mean Time Between Corrective Maintenance (ce) MTBCM: 6007 90% Confidence Interval Upper Limit: 2856 Lower Limit: 15239
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 15019 90% Confidence Interval Upper Limit: 83436 Lower Limit: 4766	Mean Time Between Corrective Maintenance (ce) MTBCM: 6007 90% Confidence Interval Upper Limit: 2856
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 15019 90% Confidence Interval Upper Limit: 83436 Lower Limit: 4766 MacCorrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance (ce) MTBCM: 6007 90% Confidence Interval Upper Limit: 2856 Lower Limit: 15239 aintainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\mathbf{f}}$: 15019 90% Confidence Interval Upper Limit: 83436 Lower Limit: 4766 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\mathbf{f}}$: 1.2	Mean Time Between Corrective Maintenance (ce) MTBCM: 6007 90% Confidence Interval Upper Limit: 2856 Lower Limit: 15239 Aintainability Indices Corrective Maintenance — (All Events) MTTRcm: 0.7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$:	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM: 6007 90% Confidence Interval Upper Limit: 2856 Lower Limit: 15239 aintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.7 MCMM _{cm} : 0.5 Max. Observed MH: 3 MCMM _{cm} : 1.1 Variance: 1.2 Normal Log Normal .50; C=0.00 *(1) DLG 18,19,20,23,28,29,30,31,32,33,23
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15019 90% Confidence Interval Upper Limit: 83436 Lower Limit: 4766 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.2 MCMM _f : 1.8 Max. Observed MH: 3 MCMM _f : 1.8 Variance: 3.1 Indicated Distribution (s): Exponential — *REMARKS: *(3) 1 PD-S: A=0.62; B=0 LPD 1,2,3,5,6,7; *(2) 2 ea/DDG; 1 ea	Mean Time Between Corrective Maintenance (ce) MTBCM:

General Description: Motor Generator 25	
	Federal Stock Number: None *(1)
Equipment Identification Code: QDOO	
Technical Manual: 363-1108	
Manufacturer: 65054 Westinghouse Elec	tric Corp.
I	Basic Data
agay the the the the	The Chart Paris Sea/SSBN
Ship Population: SSBN 640,641,642,643,6	2 ea/SSBN Period 7/1/67 6/30/6
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 1.00, B = 0.	50, C = 0.50
Total Equip. Operating Time (hours):180	Corrective Maintenance Events (CM):1
- Barrier - Bar	[1] 전 1 전 1 전 1 전 1 전 1 전 1 전 1 전 1 전 1 전
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:1
Maintenance Factors:0.67	
Moon Time Retween Feilure	Mean Time Retween Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	ean Toss defrence Existe size
	Mean Time Between Corrective Maintenance MTBCM: 180024 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 259719 **	Mean Time Between Corrective Maintenance MTBCM: 180024 90% Confidence Interval Upper Limit: 3509240
(Forced Shutdown Corrective Maintenance) MTBCM _f : 259719 ** 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 180024 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 259719 ** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance MTBCM: 180024 90% Confidence Interval Upper Limit: 3509240
(Forced Shutdown Corrective Maintenance) MTBCM _f : 259719 ** 90% Confidence Interval Upper Limit: Lower Limit: Mainta	Mean Time Between Corrective Maintenance MTBCM: 180024 90% Confidence Interval Upper Limit: 3509240 Lower Limit: 37949
(Forced Shutdown Corrective Maintenance) MTBCM _f :259719 ** 90% Confidence Interval Upper Limit: Lower Limit: Maints Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 180024 90% Confidence Interval Upper Limit: 3509240 Lower Limit: 37949 Annability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :259719 ** 90% Confidence Interval Upper Limit: Lower Limit: Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _e :	Mean Time Between Corrective Maintenance MTBCM: 180024 90% Confidence Interval Upper Limit: 3509240 Lower Limit: 37949 Animability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :259719 ** 90% Confidence Interval Upper Limit: Lower Limit: Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _e :	Mean Time Between Corrective Maintenance MTBCM:180024 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :259719 ** 90% Confidence Interval Upper Limit: Lower Limit: Maints Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:180024
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 180024 90% Confidence Interval Upper Limit: 3509240 Lower Limit: 37949 Annability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.7 MCMM _{cm} : 0 Max. Observed MH; 0 MCMM _{cm} : 1.0

General Description: Motor Generator 250	O V DC 450 HP 450 V AC 300 KW
CID/APL Number(s): 182800053	Federal Stock Number: <u>286125-894-3522</u>
Equipment Identification Code: QD00	PRE LEGICIE DE L'EXPERIENCE L'E
Technical Manual: 0636-100-7000	and the second s
Manufacturer: 65054 Westinghouse Elect	tric Corp.
SSBN 628, 629, 630, 63 Ship Population: 632,633,634,635,636;	Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours): 270224	ALLES ALLES AND
	Corrective Maintenance Events (CM):3
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:34
	67
(Forced Shutdown Corrective Maintenance)	Allegan Territoria (Paristan Paristan Association Asso
	Marco Contract Contra
MTBCM _f : 389849 **	MTBCM: 90074
MTBCM _f : 389849 ** 90% Confidence Interval	90% Confidence Interval
MTBCM _f : 389849 **	
MTBCM _f : <u>389849 **</u> 90% Confidence Interval Upper Limit: Lower Limit:	90% Confidence Interval Upper Limit: 330468
MTBCM _f : <u>389849 **</u> 90% Confidence Interval Upper Limit: Lower Limit:	90% Confidence Interval Upper Limit: 330468 Lower Limit: 34851
MTBCM _f : 389849 ** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	90% Confidence Interval Upper Limit: 330468 Lower Limit: 34851 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.6
MTBCM _f : 389849 ** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit: 330468 Lower Limit: 34851 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.6 MCMM _{cm} : 2.0
MTBCM _f : 389849 ** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	90% Confidence Interval Upper Limit: 330468 Lower Limit: 34851 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.6 MCMM _{cm} : 2.0 Max. Observed MH: 31
MTBCM _f :	90% Confidence Interval Upper Limit: 330468 Lower Limit: 34851 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.6 MCMM _{cm} : 2.0 Max. Observed MH: 31 MCMM _{cm} : 11.3
MTBCM _f : 389849 ** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	90% Confidence Interval Upper Limit: 330468 Lower Limit: 34851 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.6 MCMM _{cm} : 2.0 Max. Observed MH: 31
MTBCM _f : 389849 ** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance: Indicated Distribution (s): Exponential	90% Confidence Interval Upper Limit: 330468 Lower Limit: 34851 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.6 MCMM _{cm} : 2.0 Max. Observed MH: 31 MCMM _{cm} : 11.3 Variance: 290 Normal Log Normal
MTBCM _f :	90% Confidence Interval Upper Limit: 330468 Lower Limit: 34851 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.6 MCMM _{cm} : 2.0 Max. Observed MH: 31 MCMM _{cm} : 11.3 Variance: 290 Normal Log Normal

	50V DC 65HP 130V AC 43.2 KW
CID/APL Number(s): 182860003	Federal Stock Number:
Equipment Identification Code: QDOO	The second secon
Technical Manual:	
Manufacturer: Safety Electric Eq. C	Corp.
· I	Basic Data
Ship Population SSN 604 606	Equip. Population/Ship: 2 ea/SSN
Fauin Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.95, B = 0	0.25. $C = 0.25$
Total Equip. Operating Time (hours): 375	
Total Number of: Failures (CM _f): 8	Corrective Maintenance Events (CM):22
Total CM _f Repair Man-Hours: <u>483</u> Maintenance Factors:	
Maintenance Pactors.	
and British of Company of Management and Co.	ability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691	Mean Time Between Corrective Maintenance MTBCM: 1705
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1705 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427	Mean Time Between Corrective Maintenance MTBCM: 1705 90% Confidence Interval Upper Limit: 2520
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1705 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600	Mean Time Between Corrective Maintenance MTBCM: 1705 90% Confidence Interval Upper Limit: 2520 Lower Limit: 1195
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600	Mean Time Between Corrective Maintenance MTBCM: 1705 90% Confidence Interval Upper Limit: 2520
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 40.3	Mean Time Between Corrective Maintenance MTBCM: 1705 90% Confidence Interval Upper Limit: 2520 Lower Limit: 1195 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 33.7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 40.3 MCMM _f : 10.6	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 40.3 MCMM _f : 10.6 Max. Observed MH: 375	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 40.3 MCMM _f : 10.6 Max. Observed MH: 375 MCMM _f : 60.4	MTBCM: 1705 90% Confidence Interval Upper Limit: 2520 Lower Limit: 1195 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 33.7 MCMM _{cm} : 12.0 Max. Observed MH: 400 MCMM _{cm} : 50.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 40.3 MCMM _f : 10.6 Max. Observed MH: 375	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4691 90% Confidence Interval Upper Limit: 9427 Lower Limit: 2600 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 40.3 MCMM _f : 10.6 Max. Observed MH: 375 MCMM _f : 60.4	MTBCM: 1705 90% Confidence Interval Upper Limit: 2520 Lower Limit: 1195 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 33.7 MCMM _{cm} : 12.0 Max. Observed MH: 400 MCMM _{cm} : 50.6

General Description: Motor Generator 44	0 V AC 8 HP 120 V AC 5 KW
	Federal Stock Number: None *(1)
Equipment Identification Code: QDOO	
Technical Manual: 363-0975	about the principal designation of the source
Manufacturer: 08219 Safety Electrica	l Eq. Corp.
William Court Cour	and the second s
	Basic Data
Ship Population: SSN 594,604,605,606;	
	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 1.00, B = 1.00	
Total Equip. Operating Time (hours): 70176	
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM):4
Total CM _f Repair Man-Hours:20	Total CM Repair Man-Hours:66
Maintenance Factors: 0.67	7
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088 90% Confidence Interval	First Vallacians
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088 90% Confidence Interval Upper Limit: 197484	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088	Mean Time Between Corrective Maintenance MTBCM: 17544
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088 90% Confidence Interval Upper Limit: 197484 Lower Limit: 11146	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088 90% Confidence Interval Upper Limit: 197484 Lower Limit: 11146 Maintai	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088 90% Confidence Interval Upper Limit: 197484 Lower Limit: 11146 Maintai	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088 90% Confidence Interval Upper Limit: 197484 Lower Limit: 11146 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 35088 90% Confidence Interval Upper Limit: 197484 Lower Limit: 11146 Maintai Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.0 MCMM _{cm} : 13.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667 Lower Limit: 11.0 MTTR _{cm} : 11.0 MCMM _{cm} : 13.0 Max. Observed MH: 40
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 35088 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.0 MCMM _{cm} : 13.0 Max. Observed MH: 40 MCMM _{cm} : 16.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 35088 90% Confidence Interval Upper Limit: 197484 Lower Limit: 11146 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.7 MCMM _f : 10.1 Max. Observed MH: 20	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667 Lower Limit: 11.0 MTTR _{cm} : 11.0 MCMM _{cm} : 13.0 Max. Observed MH: 40
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 35088 90% Confidence Interval Upper Limit: 197484 Lower Limit: 11146 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 6.7 MCMMf: 10.1 Max. Observed MH: 20 MCMMf: 10.1	Mean Time Between Corrective Maintenance MTBCM: 17544 90% Confidence Interval Upper Limit: 51362 Lower Limit: 7667 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 11.0 MCMM _{cm} : 13.0 Max. Observed MH: 40 MCMM _{cm} : 16.6

delicial Describuon.	nerator 250V	DC 95HP 480V AC	64 KW
CID/APL Number(s): 18286			
Equipment Identification Code: _	QD00		
Fechnical Manual:			
Manufacturer: Safety Elec	tric Eq. Corp.		
	Basic D	ata	
	9,630,631,632,		O /GGDN
Ship Population: 633,634,63	5,030;	_ Equip. Population/Ship:	2 ea/SSBN
Equip. Population in Data Base:		_ Data Assessment Period:	7/1/67 - 6/30/69
Utilization Factors: S: A	= 0.50, B = 0.5	0, 0 = 0.90	
Total Equip. Operating Time (hor	urs):	- Air Maintanana Panari	- (CM), 203
Total Number of: Failures (CM			
Total CM _f Repair Man-Hours:	808т	otal CM Repair Man-Hours:	3687
Maintenance Factors:		0.67	
	Reliability	Indices	
manuscritis existence	Most Franchet Section (ean Time Setween Fully
Mean Time Between Failure	N	lean Time Between Correcti	ve Maintenance
(Forced Shutdown Corrective		_	MORT
		ITBCM:538	THOUSE CARBAGINES
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval	N.	90% Confidence Interval	The Letter of the state of the
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396	N 52	90% Confidence Interval Upper Limit:	— 1 595
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval	N 52	90% Confidence Interval	 I 595
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396	<u>62</u> 52	90% Confidence Interval Upper Limit:	— 1 595
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396	N 52	90% Confidence Interval Upper Limit:	— 1 595
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245	Maintainabili	90% Confidence Interval Upper Limit: Lower Limit: ty Indices	 1 595 189
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245 Corrective Maintenance — (Force)	Maintainabili	90% Confidence Interval Upper Limit: Lower Limit: ty Indices corrective Maintenance — (A	1 595 189 18 Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245 Corrective Maintenance — (Forced Failure Events Only)	Maintainabili	90% Confidence Interval Upper Limit: Lower Limit: ty Indices corrective Maintenance — (A	1 595 189 18 Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245 Corrective Maintenance — (Forced Failure Events Only)	Maintainabili	90% Confidence Interval Upper Limit: Lower Limit: ty Indices corrective Maintenance — (A	1 595 189 18 Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.6 MCMM _f : 6.0	Maintainabili d Shutdown C	90% Confidence Interval Upper Limit:	1 595 189 Il Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.6 MCMM _f : 6.0 Max. Observed MH: 30	Maintainabili d Shutdown C	90% Confidence Interval Upper Limit:	1 595 189 Il Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.6 MCMM _f : 6.0	Maintainabili d Shutdown C	90% Confidence Interval Upper Limit:	1 595 189 Il Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.6 MCMM _f : 6.0 Max. Observed MH: 30 MCMM _f : 15.8 Variance: 1794	Maintainabili d Shutdown C	90% Confidence Interval Upper Limit:	1 595 189 Il Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 396 Lower Limit: 245 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.6 MCMM _f : 6.0 Max. Observed MH: 30 MCMM _f : 15.8 Variance: 1794	Maintainabili d Shutdown Maintainabili d Shutdown Maintainabili d Shutdown Maintainabili d Shutdown	90% Confidence Interval Upper Limit:	1595 189 11 Events)

General Description: Motor Generator 3		
2000(0001)	300 V AC 8 HP 130 V AC 5	KW
CID/APL Number(s): 182860014	Federal Stock Number: None *(1)	great branch
Equipment Identification Code: QDOO		emen dia 20
Technical Manual: 363-1083	Section of the sectio	edi langero.
Manufacturer: 08219 Safety Electrical	L Equipment Corp.	dental A beneated to
SSBN 640,641,642,643,6 Ship Population: 654,655,656,657,658,65 Equip. Population in Data Base: 24	9: Equip. Population/Ship: 2 ea	/SSBN - 6/30/69
Utilization Factors: S: A = 1.00, B = 0	0.75, C = 0.75	Malay Training
Total Equip. Operating Time (hours): 389909		tes? gottegde?
Total Number of: Failures (CM _f): 25	Corrective Maintenance Events (CM): _	49
Total CM _f Repair Man-Hours: 426 Maintenance Factors:	Total CM Repair Man-Hours:	669
MTBCM _f : 15596 90% Confidence Interval	MTBCM: 7957 90% Confidence Interval	Mencus Co
90% Confidence Interval	90% Confidence Interval	No separation in
Upper Limit: 22432	Upper Limit: 10239	
Lower Limit: 11167	Lower Limit: 6271	
Mainta	inability Indices	
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)	
Failure Events Only)		
Failure Events Only) MTTR _f :11.4	MTTR _{cm} :9.1	
Failure Events Only) MTTR _f :1.4 MCMM _f :9.0	MTTR _{cm} : 9.1 MCMM _{cm} : 6.7	
Failure Events Only) MTTR _f :1.4 MCMM _f :9.0 Max. Observed MH:60	MTTR _{cm} : 9.1 MCMM _{cm} : 6.7 Max. Observed MH: 60	niant execution of france section of the section of
Failure Events Only) MTTR _f :1.4 MCMM _f :9.0	MTTR _{cm} :	nant evesing of have some? Oh yetter have seed
Failure Events Only) MTTR _f :1.4 MCMM _f :9.0 Max. Observed MH:60 MCMM _f :17.1 Variance:344	MTTR _{cm} : 9.1 MCMM _{cm} : 6.7 Max. Observed MH: 60 MCMM _{cm} : 13.7 Variance: 232	THE STATE OF THE S
Failure Events Only) MTTR _f :1.4 MCMM _f :9.0	MTTR _{cm} : 9.1 MCMM _{cm} : 6.7 Max. Observed MH: 60 MCMM _{cm} : 13.7 Variance: 232	Normal
MTTR _f :1.4 MCMM _f :9.0 Max. Observed MH:60 MCMM _f :17.1 Variance:344	MTTR _{cm} : 9.1 MCMM _{cm} : 6.7 Max. Observed MH: 60 MCMM _{cm} : 13.7 Variance: 232 Normal Log	Normal

Noun Name: 400 Hertz M/G Set General Description: Motor Generator 220	O V AC 75 HP 85 V AC 24.5 KW
CID/APL Number(s): 182930002	
Equipment Identification Code: QD00	
Technical Manual:None	
Manufacturer: 01425 The Louis All	lis Co.
	asic Data
DE 1045; DEG 1,2,4,5;	2 ea/DF: DFG: DI
Ship Population: <u>DLG 20, 29, 30, 31, 32, 33;</u>	Equip. Population/Ship: 2 ea/DE; DEG; DLG Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base:	Data Assessment Period: (/1/07 - 6/30/09), C=0.00; DEG/S: A=0.50, B=0.025, C=0.00;
Total Equip. Operating Time (hours): 981	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:
Maintenance Factors:	<u>'1</u>
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528**	Mean Time Between Corrective Maintenance MTBCM: 141528**
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval Upper Limit: Lower Limit:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit:	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval Upper Limit:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval Upper Limit: Lower Limit:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval Upper Limit: Lower Limit: nability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: MCMM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: MCMM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 141528** 90% Confidence Interval Upper Limit: Lower Limit: Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance: Variance:	Mean Time Between Corrective Maintenance MTBCM: 141528** 90% Confidence Interval

Equipment Identification

Noun Name: Stabilizer, Fin Type	
General Description:Stabilizer Ship Fir	TY
CID/APL Number(s): 319160005	Federal Stock Number: 300151-F Dwg
Equipment Identification Code: BHOO	
Technical Manual: 329-0030	
Manufacturer: 36099 Lidgerwood Mfg.	Co.
	sic Data
Ship Population: DE 1045; DEG 1, 2, 5;	Equip. Population/Ship: 1 ea/DE; 2 ea/DEG Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DE/DEG - S: A=0.20.	Data Assessment Period: (/1/6/ - 6/30/69
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f): 15	Corrective Maintenance Events (CM):41
	Total CM Repair Man-Hours:1759
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maintenance) MTBCM _f : 637 90% Confidence Interval Linner Limit: 1034	MTBCM:233 90% Confidence Interval Upper Limit:308
Upper Limit: 1034 Lower Limit: 414	Lower Limit: 180
Maintair	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :16.9	MTTR _{cm} : 28.6
MCMM _f :15	MCMM _{cm} :70
Max. Observed MH:96	Max. Observed MH: 693
Warrance: 678	MCMM _{cm} : 42.9 Variance: 13049
Indicated Distribution(s): Exponential	Normal Log Normal
PERMARKS	

2-273

Federal Stock Number: None *(1) oning Co. Special Products Division
manufacture and a second secon
oning Co. Special Products Division
Data
Equip. Population/Ship: 10 ea/CVA
Data Assessment Period: 7/1/67 - 6/30/6
C = 0.80
6
Corrective Maintenance Events (CM): 127
Total CM Repair Man-Hours: 2007
90% Confidence Interval Upper Limit: 1513 Lower Limit: 1122
lity Indices
Corrective Maintenance — (All Events)
10 F
MTTR _{cm} : 10.5
MCMM _{cm} : 6.0
Max. Observed MH:178 MCMM _{cm} :15.8
Variance: 855
And the second of the second o

Noun Name:Air	Conditioning		III I I Ca Wavel	
General Description:	Refrigeratio	on System	Air Cndn	The standy has
CID/APL Number(s):	325000075		Federal Stock Number:	None *(1)
Equipment Identification	tion Code:AAC)3		State of the Addition of
Technical Manual:	None		and Mark Salar and	all beimplicher ten un
Manufacturer: <u>108</u>	55 Carrier Ai	r Condit	ioning Co. Special	Products Division
		Basi	c Data	
Ship Population: DE	1021,1022,102	7,1028,1	029; Equip. Population/Shi	ip: 4 ea/DE
Equip. Population in	Data Base:	20	Data Assessment Perio	od: 7/1/67 - 6/30/69
Utilization Factors:_	S: A = 1.00,	B = 0.90	, c = 0.80	Later in negleton of the p
Total Equip. Operatin	ng Time (hours):	30	03635	Eller of the mediane date of
Total Number of:	Failures (CM _f):	31	Corrective Maintenance Ev	ents (CM): 132
Total CM, Repair Ma	n-Hours:3	38	Total CM Repair Man-Hour	rs: 1620
Maintenance Factors:				nest self lingst geometr
Mean Time Between	Failure wn Corrective Maint		ity Indices Mean Time Between Correc	ctive Maintenance
Mean Time Between (Forced Shutdov	wn Corrective Maint		Mean Time Between Correct	ctive Maintenance
Mean Time Between (Forced Shutdov MTBCM _f : 9794	wn Corrective Maint		Mean Time Between Correct MTBCM: 2300	Market Comment and Comments
Mean Time Between (Forced Shutdov MTBCM _f : 9794 90% Confidence	wn Corrective Maint		Mean Time Between Correct MTBCM: 2300 90% Confidence Interv	val
Mean Time Between (Forced Shutdov MTBCM _f : 9794 90% Confidence Upper Limi	wn Corrective Maint Interval it: 13529		Mean Time Between Correct MTBCM: 2300 90% Confidence Intervention Upper Limit:	val 2671
Mean Time Between (Forced Shutdov MTBCM _f : 9794 90% Confidence Upper Limi	wn Corrective Maint		Mean Time Between Correct MTBCM: 2300 90% Confidence Interv	val 2671
Mean Time Between (Forced Shutdov MTBCM _f : 9794 90% Confidence Upper Limi	wn Corrective Maint Interval it: 13529	enance)	Mean Time Between Correct MTBCM: 2300 90% Confidence Intervention Upper Limit:	val 2671
Mean Time Between (Forced Shutdov MTBCM _f : 9794 90% Confidence Upper Limi Lower Limi	Interval it: 13529 it: 7257	enance) Maintaina	Mean Time Between Correct MTBCM: 2300 90% Confidence Interventure Limit: Lower Limit:	val 2671 1991
Mean Time Between (Forced Shutdov MTBCM _f : 9794 90% Confidence Upper Limi Lower Limi Corrective Maintenance Failure Events Onl	Interval it: 13529 it: 7257	enance) Maintaina	Mean Time Between Correct MTBCM: 2300 90% Confidence Intervention Lower Limit: Lower Limit: Lower Limit: Corrective Maintenance — (val 2671 1991 (All Events)
Mean Time Between (Forced Shutdown MTBCM _f : 9794 90% Confidence Upper Limit Lower Limit Limit Lower Limit Limit Limit Limit Lower Limit Limi	Interval it: 13529 it: 7257	enance) Maintaina	Mean Time Between Correct MTBCM: 2300 90% Confidence Interventure Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (MTTR _{cm} : 8.2	val 2671 1991 (All Events)
Mean Time Between (Forced Shutdov MTBCM _f : 9794 90% Confidence Upper Limi Lower Limi Corrective Maintenance Failure Events Onl MTTR _f : 7.3 MCMM _f : 3.8	Interval it: 13529 it: 7257 ce — (Forced Shutdery)	enance) Maintaina	Mean Time Between Correct MTBCM: 2300 90% Confidence Intervention Upper Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: MTTR _{cm} : 8.2 MCMM _{cm} : 4.0	val 2671 1991 (All Events)
Mean Time Between (Forced Shutdown) MTBCM _f : 9794 90% Confidence Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTR _f : 7.3 MCMM _f : 3.8 Max. Observed Max	Interval it:13529 it:7257 ce - (Forced Shutdery)	enance) Maintaina	Mean Time Between Correct MTBCM: 2300 90% Confidence Interventure Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: MTTRcm: 8.2 MCMMcm: 4.0 Max. Observed MH:	val 2671 1991 (All Events)
Mean Time Between (Forced Shutdown MTBCM _f : 9794 90% Confidence Upper Limit Lower Limit Limit Lower Limit Lower Limit	Interval it:13529 it:7257 ce - (Forced Shutdery)	enance) Maintaina	Mean Time Between Correct MTBCM: 2300 90% Confidence Intervention Upper Limit: Lower Limit: Lower Limit: Lower Limit: Lower Limit: MTTR _{cm} : 8.2 MCMM _{cm} : 4.0	val 2671 1991 (All Events)
Mean Time Between (Forced Shutdown) MTBCM _f :9794 90% Confidence Upper Limit Lower Limit Corrective Maintenance Failure Events Onle MTTR _f :7.3 MCMM _f :3.8 Max. Observed Maintenance MCMM _f :10.9	Interval it: 13529 it: 7257 ce — (Forced Shutdery)	enance) Maintainal	Mean Time Between Correct MTBCM: 2300 90% Confidence Intervent Upper Limit: Lower Limit: Lower Limit: Lower Limit: More Limit: Lower L	val 2671 1991 (All Events)

	-12 Direct Expansion
General Description: Refrigeration Syst	tem Food Sto Cap 3.00 Ton
CID/APL Number(s): 325000077	Federal Stock Number: None *(1)
Equipment Identification Code:AMO2	The second of the second secon
Technical Manual: None	
Manufacturer: 10855 Carrier Air Cond	ditioning Co. Special Product Div.
Ship Population: LST 1173, 1174, 1175,	Basic Data 1176; Equip. Population/Ship: 2 ea/LST;
Equip. Population in Data Base:O Utilization Factors: S: $A = 0.19$, $B = 0$.	Data Assessment Period: 7/1/67 - 6/30/6
Total Number of: Failures (CM.): 29	Corrective Maintenance Events (CM): 99
	Total CM Repair Man-Hours: 2826
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 239 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818	Mean Time Between Corrective Maintenance MTBCM: 239
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval Upper Limit: 1145 Lower Limit: 601	Mean Time Between Corrective Maintenance MTBCM: 239 90% Confidence Interval Upper Limit: 285
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval Upper Limit: 1145 Lower Limit: 601 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 239 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval Upper Limit: 1145 Lower Limit: 601 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 27.6	Mean Time Between Corrective Maintenance MTBCM: 239 90% Confidence Interval Upper Limit: 285 Lower Limit: 203 Ainability Indices Corrective Maintenance — (All Events) MTTRcm: 19.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval Upper Limit: 1145 Lower Limit: 601 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 27.6 MCMM _f : 6.0	Mean Time Between Corrective Maintenance MTBCM: 239 90% Confidence Interval Upper Limit: 285 Lower Limit: 203 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 19.0 MCMM _{cm} : 5.5
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval Upper Limit: 1145 Lower Limit: 601 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 27.6 MCMM _f : 6.0 Max. Observed MH: 436 MCMM _f : 41.4	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 818 90% Confidence Interval Upper Limit: 1145 Lower Limit: 601 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 27.6 MCMM _f : 6.0 Max. Observed MH: 436 MCMM _f : 41.4	Mean Time Between Corrective Maintenance MTBCM: 239 90% Confidence Interval

-12 Direct Expansion
em Food Sto Cap .50 Ton
Federal Stock Number:None *(1)
CONTRACTOR OF THE PROPERTY OF
- Story market and analysis of the statement of the state
tioning Co. Special Products Div.
Basic Data
Equip. Population/Ship: 1 ea/MSO;
Data Assessment Period: 7/1/67 - 6/30/69
.38, C = 0.35
405
Corrective Maintenance Events (CM): 34
Total CM Repair Man-Hours:224
0.67
bility Indices
Mean Time Between Corrective Maintenance
MTBCM:747
90% Confidence Interval
Upper Limit:1016
Lower Limit: 561
inability Indices
inability Indices Corrective Maintenance — (All Events)
1 (Villagence 194
Corrective Maintenance — (All Events)
1 (Villagence 194
Corrective Maintenance — (All Events) MTTR _{cm} : 0.5
Corrective Maintenance — (All Events) MTTR _{cm} : 0.5 MCMM _{cm} : 3.0 Max. Observed MH: 37 MCMM _{cm} : 6.6
Corrective Maintenance — (All Events) MTTR _{cm} : 0.5 MCMM _{cm} : 3.0 Max. Observed MH: 37
Corrective Maintenance — (All Events) MTTR _{cm} : 0.5 MCMM _{cm} : 3.0 Max. Observed MH: 37 MCMM _{cm} : 6.6
3

General Describtion: itox 1 1 201 a 01011 1 1a.	nt Air Cndn Cap 40.00 Ton
CID/APL Number(s): 325000087	
Equipment Identification Code: AAO3	
Technical Manual: 359-0845	Section 2015 Section 2015
Manufacturer: 10855 Carrier Air Condi	tioning Co. Special Products Div.
	Basic Data
Ship Population: LST 1173,1174,1175,11	Equip. Population/Ship: 2 ea/LST
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.75, B = 0.	
Total Equip. Operating Time (hours):	
Total Number of Failures (CM):	Corrective Maintenance Events (CM): 64
Total CM _f Repair Man-Hours:176	Total CM Repair Man-Hours: 1573
Maintenance Factors:	67
Reli	ability Indices
	Mary Tree Research Publish
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028	Mean Time Between Corrective Maintenance MTBCM: 1195
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1195 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152	Mean Time Between Corrective Maintenance MTBCM: 1195 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152	Mean Time Between Corrective Maintenance MTBCM: 1195 90% Confidence Interval Upper Limit: 1488
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152 Lower Limit: 2745	Mean Time Between Corrective Maintenance MTBCM: 1195 90% Confidence Interval Upper Limit: 1488
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152 Lower Limit: 2745	Mean Time Between Corrective Maintenance MTBCM: 1195 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152 Lower Limit: 2745	MCBCM: 1195 90% Confidence Interval Upper Limit: 1488 Lower Limit: 971
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152 Lower Limit: 2745 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 1195 90% Confidence Interval Upper Limit: 1488 Lower Limit: 971 ainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152 Lower Limit: 2745 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152 Lower Limit: 2745 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2 MCMM _f : 5.0	MTBCM: 1195 90% Confidence Interval Upper Limit: 1488 Lower Limit: 971 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.4 MCMM _{cm} : 9.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 1195 90% Confidence Interval Upper Limit: 1488 Lower Limit: 971 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.4 MCMM _{cm} : 9.6 Max. Observed MH: 236
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152 Lower Limit: 2745 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2 MCMM _f : 5.0 Max. Observed MH: 42 MCMM _f : 9.3	MTBCM: 1195 90% Confidence Interval Upper Limit: 1488 Lower Limit: 971 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.4 MCMM _{cm} : 9.6 Max. Observed MH: 236 MCMM : 24.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 1195 90% Confidence Interval Upper Limit: 1488 Lower Limit: 971 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.4 MCMM _{cm} : 9.6 Max. Observed MH: 236
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4028 90% Confidence Interval Upper Limit: 6152 Lower Limit: 2745 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.2 MCMM _f : 5.0 Max. Observed MH: 42 MCMM _f : 9.3	MCMM: 24.6

Noun Name: Air Conditioning, R-12 C	
General Description: Refrigeration Plan	
CID/APL Number(s): 325000091	Federal Stock Number: None *(1)
Equipment Identification Code: AAO3	1982 - Same Company of the Company o
Technical Manual: 359-0798	and the second second seconds
Manufacturer: 10855 Carrier Air Cond	itioning Co. Special Products Div.
B	Basic Data
Ship Population: DDG 31	Equip. Population/Ship: 4 ea/DDG
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00, B = 0.	90, C = 0.80
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM):1
Total CM. Renair Man-Hours: 5	Total CM Repair Man-Hours:
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 Maintai	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 inability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 Maintai	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 3.3	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 inability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 3.3 MCMMf: 0.0 Max. Observed MH: 0.0 MCMMf: 5.0	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.3 MCMM _{cm} : 0.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 3.3 MCMMf: 0.0 Max. Observed MH: 0.0	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.3 MCMM _{cm} : 0.0 Max. Observed MH: 0.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 3.3 MCMMf: 0.0 Max. Observed MH: 0.0 MCMMf: 5.0	Mean Time Between Corrective Maintenance MTBCM: 64016 90% Confidence Interval Upper Limit: 1247875 Lower Limit: 13495 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.3 MCMM _{cm} : 0.0 Max. Observed MH: 0.0 MCMM _{cm} : 5.0

General Description: Refrigeration Plan	t Air Cndn Cap 35.00 Ton
CID/APL Number(s): 325000093	Federal Stock Number: None *(1)
Equipment Identification Code: AAO3	
Technical Manual: 359-0888	and the second s
Manufacturer: 10855 Carrier Air Cond	itioning Co. Special Products Div.
B	Basic Data
Oti- Paralai - DIG 8 9 10 11 14	Paris Parallation (Thin, 5 ea/DIG
Entire Description in Data Page 25	Equip. Population/Ship: 5 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00, B = 0.0	
Total Equip. Operating Time (hours):	
Total Number of Failures (CM):	Corrective Maintenance Events (CM): 220
Company of the Compan	
Total CM _f Repair Man-Hours:3857	Total CM Repair Man-Hours:1454
Maintenance Factors:	67
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Marin Time Mercanin Policies
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6048	Mean Time Between Corrective Maintenance MTBCM: 1814 90% Confidence Interval Upper Limit: 2035
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6048 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1814 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6048 90% Confidence Interval Upper Limit: 7500 Lower Limit: 4928	Mean Time Between Corrective Maintenance MTBCM: 1814 90% Confidence Interval Upper Limit: 2035 Lower Limit: 1623
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6048 90% Confidence Interval Upper Limit: 7500 Lower Limit: 4928	Mean Time Between Corrective Maintenance MTBCM: 1814 90% Confidence Interval Upper Limit: 2035
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6048 90% Confidence Interval Upper Limit: 7500 Lower Limit: 4928 Maintai	Mean Time Between Corrective Maintenance MTBCM: 1814 90% Confidence Interval Upper Limit: 2035 Lower Limit: 1623
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6048 90% Confidence Interval Upper Limit: 7500 Lower Limit: 4928 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 1814 90% Confidence Interval Upper Limit: 2035 Lower Limit: 1623 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6048 90% Confidence Interval Upper Limit: 7500 Lower Limit: 4928 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.7	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6048 90% Confidence Interval Upper Limit: 7500 Lower Limit: 4928 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.7 MCMM _f : 8.5 Max. Observed MH: 211	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

OI D Dofui	am Hand Otto One O CC m
General Description: Refrigeration Syst	
	Federal Stock Number: None *(1)
Equipment Identification Code: AMO2	The same of the control of the contr
Technical Manual: 359-0889	
Manufacturer: 10855 Carrier Air Condi	tioning Co. Special Products Div.
В	Sasic Data
Ship Population: DLG 8,9,10,11,14;	Equip. Population/Ship: 1 ea/DIG
Equip. Population in Data Base:5	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.38, B = 0.	38, C = 0.35
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM): 67
Total CM _e Repair Man-Hours: 203	Total CM Repair Man-Hours:589
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415	Mean Time Between Corrective Maintenance MTBCM: 485
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval Upper Limit: 2071 Lower Limit: 999	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval Upper Limit: 601
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval Upper Limit: 2071 Lower Limit: 999 Maintai	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval Upper Limit: 601 Lower Limit: 396
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval Upper Limit: 2071 Lower Limit: 999 Maintai Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval Upper Limit: 601 Lower Limit: 396
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval Upper Limit: 2071 Lower Limit: 999 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval Upper Limit: 2071 Lower Limit: 999 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.9	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval Upper Limit: 601 Lower Limit: 396 Inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval Upper Limit: 2071 Lower Limit: 999 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.9	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval Upper Limit: 2071 Lower Limit: 999 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.9 MCMM _f : 6.2 Max. Observed MH: 33	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval Upper Limit: 601 Lower Limit: 396 Inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.9 MCMM _{cm} : 6.0 Max. Observed MH: 48 MCMM _{cm} : 8.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1415 90% Confidence Interval Upper Limit: 2071 Lower Limit: 999 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.9 MCMM _f : 6.2 Max. Observed MH: 33	MCMM _{cm} :
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 485 90% Confidence Interval Upper Limit: 601 Lower Limit: 396 Inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.9 MCMM _{cm} : 6.0 Max. Observed MH: 48 MCMM _{cm} : 8.2

General Description: Refrigeration Plant	
	Federal Stock Number: None *(1)
Equipment Identification Code:AAO3	
Technical Manual: 359-0881	
Manufacturer: 10855 Carrier Air Cond	itioning Co. Special Products Div.
ı	Basic Data
Ship Population: DE 1033, 1034;	Equip. Population/Ship: 4 ea/DE
Equip. Population in Data Base:8	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 1.00, B = 0.	
Total Equip. Operating Time (hours):	121978
Total Number of: Failures (CM _f): 12	Corrective Maintenance Events (CM): 46
Total CM _f Repair Man-Hours:189	기가 있다면 하는 것이 없는 것이 없다면
Maintenance Factors:	0.67
Mean Time Between Failure	ability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088	and the second s
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 2651 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088	Mean Time Between Corrective Maintenance MTBCM: 2651
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval Upper Limit: 19773 Lower Limit: 6699	Mean Time Between Corrective Maintenance MTBCM: 2651 90% Confidence Interval Upper Limit: 3442
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval Upper Limit: 19773 Lower Limit: 6699	Mean Time Between Corrective Maintenance MTBCM: 2651 90% Confidence Interval Upper Limit: 3442 Lower Limit: 2074
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval Upper Limit: 19773 Lower Limit: 6699 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 2651 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval Upper Limit: 19773 Lower Limit: 6699 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.5	Mean Time Between Corrective Maintenance MTBCM: 2651 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval Upper Limit: 19773 Lower Limit: 6699 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.5 MCMM _f : 7.0	Mean Time Between Corrective Maintenance MTBCM: 2651 90% Confidence Interval Upper Limit: 3442 Lower Limit: 2074 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 6.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval Upper Limit: 19773 Lower Limit: 6699 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.5 MCMM _f : 7.0 Max. Observed MH: 76	Mean Time Between Corrective Maintenance MTBCM: 2651 90% Confidence Interval Upper Limit: 3442 Lower Limit: 2074 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14,4 MCMM _{cm} : 6.6 Max. Observed MH: 282
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval Upper Limit: 19773 Lower Limit: 6699 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.5 MCMM _f : 7.0 Max. Observed MH: 76	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11088 90% Confidence Interval Upper Limit: 19773 Lower Limit: 6699 Maints Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.5 MCMM _f : 7.0 Max. Observed MH: 76	Mean Time Between Corrective Maintenance MTBCM: 2651 90% Confidence Interval Upper Limit: 3442 Lower Limit: 2074 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14,4 MCMM _{cm} : 6.6 Max. Observed MH: 282

General Description: Refrigeration Syst	Lem Food Sto Can 2.44 Ton
	Federal Stock Number: None *(1)
Equipment Identification Code:AMO2	
Technical Manual: 359-0732	The second secon
Manufacturer: 10855 Carrier Air Con	nditioning Co. Special Products Div.
	and the second of the second o
	Rasi: Data
LST 1156,1157,1159,11	61, 1162.
Ship Population: $1163, 1166, 1167, 1168,$	1169; Equip. Population/Ship: 1 ea/LST
Equip. Population in Data Base: 10	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.38, B = 0	0.38, C = 0.35
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f): 27	Corrective Maintenance Events (CM): 122
Total CM _e Repair Man-Hours:322	Total CM Repair Man-Hours: 3783
Maintenance Factors:	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2375	Mean Time Between Corrective Maintenance MTBCM: 525 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2375 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 525 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2375 90% Confidence Interval Upper Limit: 3365 Lower Limit: 1722	Mean Time Between Corrective Maintenance MTBCM: 525 90% Confidence Interval Upper Limit: 614 Lower Limit: 452
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2375 90% Confidence Interval Upper Limit:3365 Lower Limit:1722 Maint	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 525 90% Confidence Interval Upper Limit: 614 Lower Limit: 452
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2375 90% Confidence Interval Upper Limit: 3365 Lower Limit: 1722 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2375 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2375 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Air Conditioning, R-12 C	
	stem Air Cndn Cap 25.00 Ton
CID/APL Number(s): 325000118, 325000	183 Federal Stock Number: None *(1)
Equipment Identification Code: AAO3	and the second second second second
Technical Manual: 359-0926	The state of the s
Manufacturer: 10855 Carrier Air Condi	tioning Co. Special Products Div.
	Basic Data
DDG 2,5,6,7,8,9,11,12,	13,14,
Ship Population: 15, 16, 17, 18, 20, 21, 24;	Equip. Population/Ship: 2 ea/DDG
	Data Assessment Period: 7/1/67 - 6/30/
	90. C = 0.80
Total Equip. Operating Time (hours):	574897
Total Number of: Failures (CM _f): 70	Corrective Maintenance Events (CM): 375
Total CM _f Repair Man-Hours: 1290	Total CM Repair Man-Hours:5858
Maintenance Factors:	.67
	ability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564	Mean Time Between Corrective Maintenance MTBCM: 1533
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1533 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564 90% Confidence Interval Upper Limit: 9235	Mean Time Between Corrective Maintenance MTBCM: 1533 90% Confidence Interval Upper Limit: 1673
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1533 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564 90% Confidence Interval Upper Limit: 9235 Lower Limit: 6250	Mean Time Between Corrective Maintenance MTBCM: 1533 90% Confidence Interval Upper Limit: 1673
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564 90% Confidence Interval Upper Limit: 9235 Lower Limit: 6250	Mean Time Between Corrective Maintenance MTBCM:1533 90% Confidence Interval Upper Limit:1673 Lower Limit:1407
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564 90% Confidence Interval Upper Limit: 9235 Lower Limit: 6250 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 1533 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564 90% Confidence Interval Upper Limit: 9235 Lower Limit: 6250 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.3	Mean Time Between Corrective Maintenance MTBCM: 1533 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7564 90% Confidence Interval Upper Limit: 9235 Lower Limit: 6250 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.3 MCMM _f : 7.3 Max. Observed MH: 144	Mean Time Between Corrective Maintenance MTBCM: 1533 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1533 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

loun Name: Refriger			
eneral Description: Ref	rigeration Syste	em Food Sto Cap 4.50 Ton	
CID/APL Number(s):	325000143	Federal Stock Number: None *(1)	
quipment Identification (Code:AMO2		
echnical Manual:35	9-0807		
lanufacturer: 10855 C	arrier Air Cond	itioning Co. Special Products I	Div.
		Basic Data	
Ship Population: AO 143	, 145, 146, 147	, 148; Equip. Population/Ship: 1 es	/AO
Equip. Population in Data	Base:5	Data Assessment Period: 7/1/67	- 6/30/69
Jtilization Factors:S	B: A=0.38, B=0.3	8, C=0.38	
Total Equip. Operating Ti	me (hours):	32554	A SHERKE SELF
Total Number of: Failu	ares (CM _f):	Corrective Maintenance Events (CM): 2	2
Total CM _f Repair Man-Ho	ours: <u>176</u>	Total CM Repair Man-Hours: 452	
Maintenance Factors:			
Mean Time Between Failu	ure	ability Indices Mean Time Between Corrective Maintens	ance
Mean Time Between Failu (Forced Shutdown C		Mean Time Between Corrective Maintens	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f :4650	ure Corrective Maintenance)	Mean Time Between Corrective Maintens MTBCM: 1479	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte	ure Corrective Maintenance) ——— erval	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte Upper Limit:	corrective Maintenance) erval	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval Upper Limit: 2186	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte	corrective Maintenance) erval	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte Upper Limit:	erval 9909 2476	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval Upper Limit: 2186	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte Upper Limit: Lower Limit:	erval 2476 Maintenance)	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval Upper Limit: 2186 Lower Limit: 1036	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only)	erval 9909 2476 Maint	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval	ance
Mean Time Between Failu (Forced Shutdown Common MTBCMf: 4650 90% Confidence Inte Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTRf: 16.7	erval 9909 2476 Maint	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 16.7	erval 9909 2476 Maint	Mean Time Between Corrective Maintens MTBCM:	ance
Mean Time Between Failu (Forced Shutdown Common MTBCMf: 4650 90% Confidence Intelligence Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance Failure Events Only) MTTRf: 16.7 MCMMf: 5.0 Max. Observed MH:	erval 9909 2476 Maint	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte Upper Limit: Lower Limit: Lower Limit: 1 Corrective Maintenance — Failure Events Only) MTTR _f : 16.7 MCMM _f : 5.0 Max. Observed MH: 25.1	erval 9909 2476 Maint	Mean Time Between Corrective Maintens MTBCM:	ance
Mean Time Between Failu (Forced Shutdown Common MTBCMf: 4650 90% Confidence Intelligence Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance Failure Events Only) MTTRf: 16.7 MCMMf: 5.0 Max. Observed MH:	erval 9909 2476 Maint	Mean Time Between Corrective Maintens MTBCM: 1479 90% Confidence Interval	ance
Mean Time Between Failu (Forced Shutdown C MTBCM _f : 4650 90% Confidence Inte Upper Limit: Lower Limit: Lower Limit: 1 Corrective Maintenance — Failure Events Only) MTTR _f : 16.7 MCMM _f : 5.0 Max. Observed MH: 25.1	erval 9909 2476 Maint (Forced Shutdown	Mean Time Between Corrective Maintens MTBCM:	nice Normal

Noun Name: <u>Refrigeration System, R</u> General Description: <u>Refrigeration Syst</u>	em Food Sto Cap 2.00 Ton
	Federal Stock Number: None *(1)
Equipment Identification Code: AMO2	
Technical Manual: _359-0923	
	itioning Co. Special Products Div.
	Basic Data
DDG 2,5,6,7,8,9,11,12,	13,14,15,
Ship Population: 16, 17, 18, 19, 20, 21, 24;	Equip. Population/Ship: ea/DDG
	Data Assessment Period: 7/1/67 - 6/30/6
	38, C = 0.35
Total Equip. Operating Time (hours):	117237
Total Number of: Failures (CM _f): 56	Corrective Maintenance Events (CM): 274
Total CM _f Repair Man-Hours: 365	Total CM Repair Man-Hours: 3456
	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2093	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2093 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2093	Mean Time Between Corrective Maintenance MTBCM: 427
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2093 90% Confidence Interval Upper Limit: 2647 Lower Limit: 1676	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2093 90% Confidence Interval Upper Limit: 2647 Lower Limit: 1676	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474 Lower Limit: 387
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474 Lower Limit: 387 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474 Lower Limit: 387 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474 Lower Limit: 387 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 4.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474 Lower Limit: 387 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 4.0 Max. Observed MH: 301
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474 Lower Limit: 387 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 4.0 Max. Observed MH: 301 MCMM _{cm} : 12.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474 Lower Limit: 387 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 4.0 Max. Observed MH: 301
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 427 90% Confidence Interval Upper Limit: 474 Lower Limit: 387 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.4 MCMM _{cm} : 4.0 Max. Observed MH: 301 MCMM _{cm} : 12.6

ARINC RESEARCH CORP ANNAPOLIS MD
ESTABLISHMENT OF RELIABILITY AND MAINTAINABILITY DATA BANK FOR --ETC(U)
MAR 73 E J LUTZ, D J HOFFMAN
OE13-01-1-1224-VOL-2
NL AD-A054 500 UNCLASSIFIED 4 of **8**AD A054500 Ø - Name

eneral Description, Refrigeration Syst	tem Food Storage .50 Ton
	Federal Stock Number: None *(1)
Equipment Identification Code: AMO2	reactal block Nameer
Technical Manual:None	SECO NOTICE TRANSPORTED
	ditioning Co. Special Products Div.
Manufacturer	
	Basic Data
Ship Population: MSC 198, 199, 205, 206, 2	207,*(2) Equip. Population/Ship:1_ea/MSC
	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: $S: A = 0.38, B = 0$.38, C = 0.35 one ea
Total Equip. Operating Time (hours):	45498
	Corrective Maintenance Events (CM):56
Total CM _e Repair Man-Hours: 234	Total CM Repair Man-Hours:1608
Maintenance Factors:	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval Upper Limit: 7375	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval Upper Limit: 1027
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval Upper Limit: 7375 Lower Limit: 2499	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval Upper Limit: 1027
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval Upper Limit: 7375 Lower Limit: 2499	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval Upper Limit: 7375 Lower Limit: 2499 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.2	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval Upper Limit: 7375 Lower Limit: 2499 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.2 MCMM _f : 2.0	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval Upper Limit: 1027 Lower Limit: 650 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 19.1 MCMM _{cm} : 4.8
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval Upper Limit: 7375 Lower Limit: 2499 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.2 MCMM _f : 2.0 Max. Observed MH: 213	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval Upper Limit: 7375 Lower Limit: 2499 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.2 MCMM _f : 2.0 Max. Observed MH: 213 MCMM _f : 21.3	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval Upper Limit: 1027 Lower Limit: 650 Attainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 19.1 MCMM _{cm} : 4.8 Max. Observed MH: 213 MCMM _{cm} : 28.7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4136 90% Confidence Interval Upper Limit: 7375 Lower Limit: 2499 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.2 MCMM _f : 2.0 Max. Observed MH: 213	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 4136 90% Confidence Interval Upper Limit: 7375 Lower Limit: 2499 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 14.2 MCMMf: 2.0 Max. Observed MH: 213 MCMMf: 21.3	Mean Time Between Corrective Maintenance MTBCM: 812 90% Confidence Interval Upper Limit: 1027 Lower Limit: 650 Attainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 19.1 MCMM _{cm} : 4.8 Max. Observed MH: 213 MCMM _{cm} : 28.7

	nilled Water
General Description: Refrigeration Plant	t Air Cndn Cap 54.00 Ton
CID/APL Number(s): 325000193, 32500019	4 Federal Stock Number: None *(1)
Equipment Identification Code:AAO3	authorite steet Bladen Blade (1997)
Technical Manual: None	A CONTROL OF THE CONT
Manufacturer: 10855 Carrier Air Condit	tioning Co. Special Products Div.
В	asic Data
IPD 3 4 5 6	Build Bandation (Ship. 11 ea/LPD
Ship Population:	Equip. Population/Ship: 4 ea/LPD Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base:	
Utilization Factors: S: R = 0.13, B = 0.3	197850
Total Equip. Operating Time (hours):	Granting Maintenance Frants (CM): 103
	Corrective Maintenance Events (CM):103
Total CM _f Repair Man-Hours: 362	Total CM Repair Man-Hours:1489
Maintenance Factors: 0.67	SVE SEE SEE SEE SEE SEE SEE SEE SEE SEE
Relia	bility Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM ₆ : 7102	10/17
	MTBCM: 1241
90% Confidence Interval	90% Confidence Interval
90% Confidence Interval Upper Limit: 10989	90% Confidence Interval Upper Limit: 1471
	90% Confidence Interval
90% Confidence Interval Upper Limit: 10989 Lower Limit: 4790	90% Confidence Interval Upper Limit: 1471
90% Confidence Interval Upper Limit:10989 Lower Limit:4790 Maintai	90% Confidence Interval Upper Limit: 1471 Lower Limit: 1054
90% Confidence Interval Upper Limit: 10989 Lower Limit: 4790 Maintai Corrective Maintenance — (Forced Shutdown	90% Confidence Interval Upper Limit: 1471 Lower Limit: 1054 inability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 1471 Lower Limit: 1054 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 1471 Lower Limit: 1054 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 1471 Lower Limit: 1054 inability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 1471 Lower Limit: 1054 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6 MCMM _{cm} : 5.0 Max. Observed MH: 227 MCMM _{cm} : 14.5
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 1471 Lower Limit: 1054 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6 MCMM _{cm} : 5.0
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit:

General Description: Refrigeration Syste	-12 Direct Expansion m Food Sto Cap 1.00 Ton
	Federal Stock Number: None *(1)
Equipment Identification Code: AMO2	_ rederal block (valide):
rechnical Manual: 359-0821	The second secon
	tioning Co. Special Products Div.
Manufacturer: 10099 Carrier Military	Tenning out appoint from the property of the p
•	Basic Data
DE 1021, 1022, 1027,	nasic Data
Ship Population: 1028, 1029, 1033, 103	4: Equip. Population/Ship: 1 ea/DE
Equip. Population in Data Base: 7	Data Assessment Period: 7/1/67 - 6/30/69 38, C = 0.35
Utilization Factors: S: A = 0.38, B = 0.	38, C = 0.35
Total Equip. Operating Time (hours):	44463
Total Number of: Failures (CM _f): 16	Corrective Maintenance Events (CM): 76
Total CM _f Repair Man-Hours: 89	Total CM Repair Man-Hours:740
Maintenance Factors:	0.67
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	Former Sundays Connector Meditions of
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2778	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2778 90% Confidence Interval	MTBCM: 585 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2778 90% Confidence Interval Upper Limit: 1431	MTBCM:585 90% Confidence Interval Upper Limit:714
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2778 90% Confidence Interval Upper Limit: 4431	MTBCM: 585 90% Confidence Interval Upper Limit: 714
(Forced Shutdown Corrective Maintenance) MTBCM _f :2778 90% Confidence Interval Upper Limit:	MTBCM:585 90% Confidence Interval Upper Limit:714
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2778 90% Confidence Interval Upper Limit: 1431 Lower Limit: 1830 Maintai	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :2778 90% Confidence Interval	MTBCM: 585 90% Confidence Interval Upper Limit: 714 Lower Limit: 483
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :2778 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :2778 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :2778 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :2778 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :2778 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :2778 90% Confidence Interval	MTBCM:

General Description: Relitigeracion Flanc	Air Cndn Cap 53.00 Ton
CID/APL Number(s): 325000214, 32500021	5 Federal Stock Number: None *(1)
Equipment Identification Code: AAO3	and the state of t
Technical Manual: 359-1078	the might be a state of the sta
Manufacturer: 10855 Carrier Air Condi	tioning Co. Special Products Div.
Bar	sic Data
Ship Population: DLG 28,29,30,31,32,33;	Equip. Population/Ship: 5 ea/DLG
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 1.00, B = 0.90	0, C = 0.80
Total Equip. Operating Time (hours):	486286
Total Number of: Failures (CM _f): 58	_ Corrective Maintenance Events (CM):347
Total CMe Repair Man-Hours: 479	Total CM Repair Man-Hours: 3302
Maintenance Factors: 0.6	7
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1401 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384	Mean Time Between Corrective Maintenance MTBCM: 1401
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval Upper Limit: 10556 Lower Limit: 6737 Maintain	Mean Time Between Corrective Maintenance MTBCM: 1401 90% Confidence Interval Upper Limit: 1534 Lower Limit: 1282 ability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval Upper Limit: 10556 Lower Limit: 6737 Maintain	Mean Time Between Corrective Maintenance MTBCM: 1401 90% Confidence Interval Upper Limit: 1534 Lower Limit: 1282
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval Upper Limit: 10556 Lower Limit: 6737 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 1401 90% Confidence Interval Upper Limit: 1534 Lower Limit: 1282 ability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval Upper Limit: 10556 Lower Limit: 6737 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.5	Mean Time Between Corrective Maintenance MTBCM: 1401 90% Confidence Interval Upper Limit: 1534 Lower Limit: 1282 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval Upper Limit: 10556 Lower Limit: 6737 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.5 MCMM _f : 3.0	Mean Time Between Corrective Maintenance MTBCM: 1401 90% Confidence Interval Upper Limit: 1534 Lower Limit: 1282 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.3 MCMM _{cm} : 3.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval Upper Limit: 10556 Lower Limit: 6737 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.5 MCMM _f : 3.0 Max. Observed MH: 51	Mean Time Between Corrective Maintenance MTBCM: 1401 90% Confidence Interval Upper Limit: 1534 Lower Limit: 1282 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.3 MCMM _{cm} : 3.0 Max. Observed MH: 350
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval Upper Limit: 10556 Lower Limit: 6737 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.5 MCMM _f : 3.0	Mean Time Between Corrective Maintenance MTBCM: 1401 90% Confidence Interval Upper Limit: 1534 Lower Limit: 1282 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.3 MCMM _{cm} : 3.0 Max. Observed MH: 350
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8384 90% Confidence Interval Upper Limit: 10556 Lower Limit: 6737 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.5 MCMM _f : 3.0 Max. Observed MH: 51 MCMM _f : 8.3	Mean Time Between Corrective Maintenance MTBCM:

	Federal Stock Number: None *(1)
Equipment Identification Code: AA05	- 3 Collinger company ments
rechnical Manual: 359-1043	The second secon
Manufacturer: 10855 Carrier Air Cond	itioning Co. Special Products Div.
	Basic Data
Ship Population: SSBN 640 641 642 643 6	644.645 Equip. Population/Ship: 1 ea/SSBN
	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 1.00, B = 0.0	
Total Equip. Operating Time (hours):	74838
Total Number of: Failures (CMs): 29	Corrective Maintenance Events (CM):181
Maintenance Factors:	Total CM Repair Man-Hours: 4266
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2580 90% Confidence Interval Upper Limit: 3607	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2580 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2580 90% Confidence Interval Upper Limit: 3607 Lower Limit: 1893	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467 Lower Limit: 364
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2580 90% Confidence Interval Upper Limit: 3607 Lower Limit: 1893 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467 Lower Limit: 364 ainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2580 90% Confidence Interval Upper Limit: 3607 Lower Limit: 1893 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 31.4	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467 Lower Limit: 364 ainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467 Lower Limit: 364 ainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467 Lower Limit: 364 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.7 MCMM _{cm} : 3.0 Max. Observed MH: 1152
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467 Lower Limit: 364 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.7 MCMM _{cm} : 3.0 Max. Observed MH: 1152
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467 Lower Limit: 364 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.7 MCMM _{cm} : 3.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 411 90% Confidence Interval Upper Limit: 467 Lower Limit: 364 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.7 MCMM _{cm} : 3.0 Max. Observed MH: 1152 MCMM _{cm} : 23.6

	12 Chilled Water
General Description: Refrigeration Plan	
	000243 Federal Stock Number: None *(1)
Equipment Identification Code: AAO3	a de la company
Technical Manual: 359-1062	
Manufacturer: 10855 Carrier Air (Conditioning Co. Special Products Div.
	Basic Data
Ship Population: AFS 1, 2	Equip. Population/Ship: 4 ea/AFS
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67 - 6/30/6
	0.55, C = 0.55
Total Equip. Operating Time (hours):	76199
Total Number of: Failures (CM _f): 6	Corrective Maintenance Events (CM): 28
Total CM _f Repair Man-Hours: 9.9	Total CM Repair Man-Hours: 221.2
Maintenance Factors:	
Mean Time Between Failure	Reliability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699	Mean Time Between Corrective Maintenance e) MTBCM: 2721
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval	Mean Time Between Corrective Maintenance (e) MTBCM: 2721 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval Upper Limit: 3829
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval	Mean Time Between Corrective Maintenance (e) MTBCM: 2721 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval Upper Limit: 3829
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval Upper Limit: 3829 Lower Limit: 1985
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434 Ma	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval Upper Limit: 3829 Lower Limit: 1985 intainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval Upper Limit: 3829 Lower Limit: 1985 intainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.1	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval Upper Limit: 3829 Lower Limit: 1985 intainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMf: 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 1.1 MCMMf: 1.0 Max. Observed MH: 5	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.1 MCMM _f : 1.0 Max. Observed MH: 5	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 12699 90% Confidence Interval Upper Limit: 29162 Lower Limit: 6434 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.1 MCMM _f : 1.0 Max. Observed MH: 5 MCMM _f : 1.6	Mean Time Between Corrective Maintenance MTBCM: 2721 90% Confidence Interval Upper Limit: 3829 Lower Limit: 1985 Lower Limit: 1985 MTTR _{cm} : 5.3 MCMM _{cm} : 4.5 Max. Observed MH: 55 MCMM _{cm} : 7.9 Variance: 135

CID/APL Number(s):325000246	Federal Stock Number: None *(1)
Equipment Identification Code: AMO2	
Technical Manual: None	
Manufacturer: 10855 Carrier Air Con	ditioning Co. Special Products Div.
	Basic Data
10 105 106 105 100 1	
Ship Population: AO 105,106,107,108,1	O9: Equip. Population/Ship: 1 ea/AO
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours):	
Total Number of: Failures (CMa): 16	Corrective Maintenance Events (CM): 50
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours: 332
Maintenance Factors:	0.0
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2038	Mean Time Between Corrective Maintenance MTBCM: 652
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2038 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2038	Mean Time Between Corrective Maintenance MTBCM: 652
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2038 90% Confidence Interval Upper Limit:3250	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval Upper Limit: 837
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval Upper Limit: 837
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2038 90% Confidence Interval Upper Limit:3250 Lower Limit:1342 Main	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval Upper Limit: 837 Lower Limit: 515 tainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval Upper Limit: 837 Lower Limit: 515 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval Upper Limit: 837 Lower Limit: 515 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval Upper Limit: 837 Lower Limit: 515 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.4 MCMM _{cm} : 3.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval Upper Limit: 837 Lower Limit: 515 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.4 MCMM _{cm} : 3.0 Max. Observed MH: 80 MCMM _{cm} : 6.6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 652 90% Confidence Interval Upper Limit: 837 Lower Limit: 515 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.4 MCMM _{cm} : 3.0 Max. Observed MH: 80 MCMM _{cm} : 6.6

General Description: Rel Figeracion Plant	Air Cndn Cap 25,00 Ton
CID/APL Number(s): 325000248	
Equipment Identification Code:AAO3	
Technical Manual: None	tearing tearing
Manufacturer: 10855 Carrier Air Condi	tioning Co. Special Products Div.
Bas	sic Data
Ship Population: AO 105, 106, 107, 108, 109	Equip. Population/Ship: 2 ea/A0
Equip. Population in Data Base: 10	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 1.00, B = 0.90	0. C = 0.80
Total Equip. Operating Time (hours):	160187
Total Number of: Failures (CM _f): 27	_ Corrective Maintenance Events (CM):10
Total CMe Repair Man-Hours: 598	Total CM Repair Man-Hours: 2134
Maintenance Factors:	
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161	Mean Time Between Corrective Maintenance MTBCM: 1456
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161	Mean Time Between Corrective Maintenance MTBCM: 1456
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161 90% Confidence Interval Upper Limit: 8793 Lower Limit: 4440	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval Upper Limit: 1716
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161 90% Confidence Interval Upper Limit: 8793 Lower Limit: 4440 Maintain	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval Upper Limit: 1716 Lower Limit: 1243
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161 90% Confidence Interval Upper Limit: 8793 Lower Limit: 4440	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval Upper Limit: 1716 Lower Limit: 1243 ability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161 90% Confidence Interval Upper Limit: 8793 Lower Limit: 4440 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161 90% Confidence Interval Upper Limit: 8793 Lower Limit: 4440 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.8	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6161 90% Confidence Interval Upper Limit: 8793 Lower Limit: 4440 Maintain Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :616190% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1456 90% Confidence Interval

oun Name: Refrigeration System,		-
General Description: Refrigeration Sys		-
	Federal Stock Number: None *(1)	_
Equipment Identification Code:AMO2		_
Technical Manual: 359-0010		
Manufacturer: 66935 York Div. of E	Borg-Warner Corp.	
	Basic Data	
Ship Population, DD 941 942 946 951.	DDG 31. Equip. Population/Ship: 1 ea/DD; DDG	
South Population in Data Page 5	Data Assessment Period: 7/1/67 - 6/30	16
Equip. Population in Data Base:	88.C=0.35; DDG/S: A=0.38.B=0.38.C=0.35	,
Total Equip. Operating Time (hours):	Santia Maintanana Barata (SM), 64	
	Corrective Maintenance Events (CM): 64	
Total CM _f Repair Man-Hours: <u>679</u>	Total CM Repair Man-Hours: 749	-
Maintenance Factors:	0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Mean Time Between Corrective Maintenance	
Mean Time Between Failure	Mean Time Between Corrective Maintenance	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval Upper Limit: 2933	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval Upper Limit: 618	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval Upper Limit: 2933 Lower Limit: 1246	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval Upper Limit: 618	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval Upper Limit: 2933 Lower Limit: 1246 Mai	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval Upper Limit: 618 Lower Limit: 403	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval Upper Limit: 2933 Lower Limit: 1246 Mai Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval Upper Limit: 618 Lower Limit: 403	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval Upper Limit: 2933 Lower Limit: 1246 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval Upper Limit: 618 Lower Limit: 403 intainability Indices Corrective Maintenance — (All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :1868 90% Confidence Interval Upper Limit:2933 Lower Limit:1246 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :10.3	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval Upper Limit: 618 Lower Limit: 403 intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.8	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval Upper Limit: 2933 Lower Limit: 1246 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (a) MTBCM: 496 90% Confidence Interval Upper Limit: 618 Lower Limit: 403 intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.8 MCMM _{cm} : 4.0	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1868 90% Confidence Interval Upper Limit: 2933 Lower Limit: 1246 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.3 MCMM _f : 5.0 Max. Observed MH: 100 MCMM _f : 15.4	Mean Time Between Corrective Maintenance MTBCM: 496 90% Confidence Interval Upper Limit: 618 Lower Limit: 403 intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.8 MCMM _{cm} : 4.0 Max. Observed MH: 113 MCMM _{cm} : 11.7 Variance: 513	

General Description: _ Refrigeration Syst	cem Food Std. Cap 175.0	O Ton
ID/APL Number(s): 325010102		
quipment Identification Code: AMO1		Company (2) had the second
echnical Manual: 359-1013		
Manufacturer: 66935 York Div. of Borg		Principal and the second second
	Basic Data	
AF 50 61		2/AF 6B. 1/AF
Chip Population: AF 52, 61 Cquip. Population in Data Base: 3	Equip. Population/Ship:	2/AF ON, 1/AF
Equip. Population in Data Base:		
Cotal Equip. Operating Time (hours):		
Total Number of: Failures (CM _f): 18	Competing Maintenance From	to (CM): 132
Total CM _f Repair Man-Hours: 404	Total CM Repair Man-Hours:	:3044
Maintenance Factors:	0.67	
	ability Indices Mean Time Between Correcti	ive Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Correction MTBCM: 316 90% Confidence Interva	die amagengde sevensi Leidig – Mins Leidi egystellande 2016
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2323 90% Confidence Interval Upper Limit: 3595	Mean Time Between Correction MTBCM: 316 90% Confidence Interva Upper Limit:	1 368
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) WTBCMf: 2323 90% Confidence Interval	Mean Time Between Correction MTBCM: 316 90% Confidence Interva	1 368
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2323 90% Confidence Interval Upper Limit: 3595	Mean Time Between Correction MTBCM: 316 90% Confidence Interva Upper Limit:	1 368
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2323 90% Confidence Interval Upper Limit: 3595 Lower Limit: 1567	Mean Time Between Correction MTBCM: 316 90% Confidence Interva Upper Limit:	1 368
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2323 90% Confidence Interval Upper Limit: 3595 Lower Limit: 1567 Maintenance	Mean Time Between Correction MTBCM: 316 90% Confidence Interva Upper Limit: Lower Limit: ainability Indices	1 368 274
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2323 90% Confidence Interval Upper Limit: 3595 Lower Limit: 1567 Maintenance — (Forced Shutdown	Mean Time Between Correction MTBCM: 316 90% Confidence Interva Upper Limit: Lower Limit:	1 368 274
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2323 90% Confidence Interval Upper Limit: 3595 Lower Limit: 1567 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Correction MTBCM: 316 90% Confidence Interva Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A	1 368 274
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2323 90% Confidence Interval Upper Limit: 3595 Lower Limit: 1567 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 15.0 MCMM _f : 8.5	Mean Time Between Correction MTBCM: 316 90% Confidence Intervation Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 15.4 MCMM _{cm} : 5.0	1 368 274
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Correction MTBCM: 316 90% Confidence Intervation Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 15.4 MCMM _{cm} : 5.0 Max. Observed MH:	1 368 274
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2323 90% Confidence Interval Upper Limit:3595 Lower Limit:1567 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :15.0 MCMM _f :8.5 Max. Observed MH:89 MCMM _f :22.4	Mean Time Between Correction MTBCM: 316 90% Confidence Intervation Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 15.4 MCMM _{cm} : 5.0 Max. Observed MH: MCMM _{cm} : 23.1	1 368 274
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Correction MTBCM: 316 90% Confidence Intervation Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 15.4 MCMM _{cm} : 5.0 Max. Observed MH:	1 368 274
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2323 90% Confidence Interval Upper Limit: 3595 Lower Limit: 1567 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 15.0 MCMM _f : 8.5 Max. Observed MH: 89 MCMM _f : 22.4	Mean Time Between Correction MTBCM: 316 90% Confidence Intervation Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (A MTTR _{cm} : 15.4 MCMM _{cm} : 5.0 Max. Observed MH: MCMM _{cm} : 23.1	1 368 274

Noun Name: Air Conditioning, R-1	L OIIIIIG WAGEI
General Description: Refrigeration Pl	
	Federal Stock Number: None *(1)
	23
Technical Manual: None	
Manufacturer: 66935 York Div. of Bo	rg-Warner Corp.
	Basic Data
DIG 10 10 00 00	2 ea/DLG 19,22
	Equip. Population/Ship: 1 ea/DLG 18,23;
	Data Assessment Period: 7/1/67 - 6/30/69
	0.90, C = 0.80
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f): 21	Corrective Maintenance Events (CM): 50
	Total CM Repair Man-Hours:522
Maintenance Factors:	0.67
	eliability Indices Mean Time Between Corrective Maintenance
R Mean Time Between Failure	Mean Time Between Corrective Maintenance
R Mean Time Between Failure (Forced Shutdown Corrective Maintenance	eliability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 6093 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 6093 90% Confidence Interval Upper Limit: 9094	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval Upper Limit: 3284
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 6093 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 6093 90% Confidence Interval Upper Limit: 9094 Lower Limit: 4232	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval Upper Limit: 3284
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 6093 90% Confidence Interval Upper Limit: 9094 Lower Limit: 4232 Maintenance	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval Upper Limit: 3284 Lower Limit: 2022 Intainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval Upper Limit: 3284 Lower Limit: 2022 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.0 MCMM _{cm} : 4.5 Max. Observed MH: 94
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 2559 90% Confidence Interval Upper Limit: 3284 Lower Limit: 2022 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.0 MCMM _{cm} : 4.5 Max. Observed MH: 94
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Air Conditioning, R-12 Ch	illed Water
General Description: Reirigeration Plant	Air Cndn Cap 70.00 Ton LH
CID/APL Number(s): 325010157, 32501015	58Federal Stock Number: None *(1)
	Personal Control of Co
Technical Manual: 359-0950	
Manufacturer: 66935 York Div. of Borg-	Warner Corp.
Basi	ic Data
Ship Population: LPH 3, 7	Equip. Population/Ship: 3 ea/LPH-3; *(2
Equip. Population in Data Base:8	Equip. Population/Ship: 3 ea/LPH - 3; * (2 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00, B = 0.50	
Total Equip. Operating Time (hours):	93937
	Corrective Maintenance Events (CM): 65
Total CM _f Repair Man-Hours: 815	Total CM Repair Man-Hours: 2048
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3354 90% Confidence Interval Upper Limit: 4720 Lower Limit: 2447	MTBCM: 1445 90% Confidence Interval Upper Limit: 1795 Lower Limit: 1176
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	(iii zveiiz)
MTTR _f : 19.4	MTTR _{cm} :21.0
MCMM ₆ : 17.0	MCMM _{cm} :13.5
Max. Observed MH: 124	Max. Observed MH:250
MCMM _f :29.1	MCMM _{cm} :31.5
Variance:974	Variance: 2262
Indicated Distribution(s): Exponential *REMARKS: *(1) Dwg-67-39403; *(2) 5	Normal Log Normal _X

hilled Water ir Cndn Cap 110.00 Ton Gederal Stock Number: None *(1) Warner Corp. c Data Lequip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69 C = 0.60
Warner Corp. c Data Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
Warner Corp. c Data Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
Warner Corp. c Data Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
c Data Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
c Data Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population/Ship: 2 ea/SSBN Data Assessment Period: 7/1/67 - 6/30/69
Data Assessment Period: 7/1/67 - 6/30/69
1 0 010
14
Corrective Maintenance Events (CM): 176
Total CM Repair Man-Hours: 7897
0.67
MTBCM: _37490% Confidence Interval
Upper Limit: 426
Lower Limit: 330
30 101
bility Indices
Corrective Maintenance — (All Events)
20.0
MTTR _{cm} : 29.9
MCMM _{cm} :
Max. Observed MH: 1000
MCMM _{cm} : 44.9
Variance: 18899
Normal Log NormalX
1

General Description: Refrigeration Pla	Federal Stock Number: None *(1)
	rederal Stock Number: None (1)
Technical Manual: None	THE RESERVE OF THE PROPERTY OF
	Borg-Warner Corp.
Manufacturer: TOTA DIV. OF B	sorg-warner corp.
gapy the the the the the	Basic Data
SSBN 640,641,642,643,64	4,645,654, Equip. Population/Ship: 2 ea/SSBN
Touin Population in Data Person	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.19, B = 0	Data Assessment Period: 7/1/67 - 6/30/6
Total Equip. Operating Time (hours):	75557
Total Number of Feiture (OM)	2 1 20 1 20 1 20 2 20 2
	Corrective Maintenance Events (CM): 145
	Total CM Repair Man-Hours: 1612
Maintenance Factors:	0.67
Mean Time Between Failure	man I me between corrective manitenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval Upper Limit: 6073	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval Upper Limit: 601
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 521
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval Upper Limit: 6073 Lower Limit: 2710	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval Upper Limit: 601 Lower Limit: 454
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval Upper Limit: 6073 Lower Limit: 2710	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval Upper Limit: 601
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval Upper Limit: 6073 Lower Limit: 2710 Main	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval Upper Limit: 601 Lower Limit: 454
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval Upper Limit: 6073 Lower Limit: 2710 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval Upper Limit: 601 Lower Limit: 454 ntainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval Upper Limit: 6073 Lower Limit: 2710 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.6	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval Upper Limit: 601 Lower Limit: 454 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 3976 90% Confidence Interval Upper Limit: 6073 Lower Limit: 2710 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.6 MCMM _f : 3.7	Mean Time Between Corrective Maintenance MTBCM:521 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :3976 90% Confidence Interval Upper Limit:6073 Lower Limit:2710 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.6 MCMM _f :3.7 Max. Observed MH:50	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval Upper Limit: 601 Lower Limit: 454 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :3976 90% Confidence Interval Upper Limit:6073 Lower Limit:2710 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.6 MCMM _f :3.7 Max. Observed MH:50 MCMM _f :9.9	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :3976 90% Confidence Interval Upper Limit:6073 Lower Limit:2710 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.6 MCMM _f :3.7 Max. Observed MH:50	Mean Time Between Corrective Maintenance MTBCM: 521 90% Confidence Interval Upper Limit: 601 Lower Limit: 454 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.4 MCMM _{cm} : 4.0 Max. Observed MH: 310

	ystem All Chan cap lee.ee len
CID/APL Number(s): 325010226	ystem Air Cndn Cap 168.00 Ton Federal Stock Number: None *(1)
Equipment Identification Code: AAC	3
Cechnical Manual: 359-0916	
Manufacturer: 66935 York Div. of	Borg-Warner Corp.
	Basic Data
Ship Population: SSN 594, 604, 606	Equip. Population/Ship: 2 ea/SSN
Equip. Population in Data Base:6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.05, B =	c = 0.60, c = 0.60
Total Equip. Operating Time (hours):	26057
Total Number of: Failures (CM _f): 12	Corrective Maintenance Events (CM): 71
	Total CM Repair Man-Hours:1521
Maintenance Factors:	
Mean Time Between Failure	Reliability Indices Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintens	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintena MTBCM _f : 2368	Mean Time Between Corrective Maintenance ance) MTBCM: 367
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM: 367 90% Confidence Interval
(Forced Shutdown Corrective Maintens MTBCM _f : 2368	Mean Time Between Corrective Maintenance ance) MTBCM: 367 90% Confidence Interval
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval Upper Limit: 4224 Lower Limit: 1431	Mean Time Between Corrective Maintenance ance) MTBCM: 367 90% Confidence Interval Upper Limit: 451
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval Upper Limit: 4224 Lower Limit: 1431	Mean Time Between Corrective Maintenance ance) MTBCM: 367 90% Confidence Interval Upper Limit: 451 Lower Limit: 301 Maintainability Indices
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval Upper Limit: 4224 Lower Limit: 1431 Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval Upper Limit: 4224 Lower Limit: 1431 Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance ance) MTBCM: 367 90% Confidence Interval Upper Limit: 451 Lower Limit: 301 Maintainability Indices Corrective Maintenance — (All Events) MTTRcm: 14.3
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval Upper Limit: 4224 Lower Limit: 1431 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.5 MCMM _f : 6.5	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval Upper Limit: 4224 Lower Limit: 1431 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.5	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval Upper Limit: 4224 Lower Limit: 1431 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.5 MCMM _f : 6.5 Max. Observed MH: 66 MCMM _f : 18.8	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval Upper Limit: 4224 Lower Limit: 1431 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.5 MCMM _f : 6.5 Max. Observed MH: 66	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintens MTBCM _f : 2368 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:

Congrel Decomption, RATMICAMETION CITAT	
General Description: Refrigeration Systems 325010241	Federal Stock Number: None *(1)
Equipment Identification Code: AMO2	
Technical Manual: None	
Manufacturer: 66935 York Div. of Box	rg-Warner Corp.
Manufacturer.	
	Basic Data
Ship Population: DLG 29, 30, 31, 33	Equip. Population/Ship: 1 ea/DLG
Equip. Population in Data Base:4	Equip. Population/Ship: 1 ea/DLG Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.38, B = 0	.38, C = 0.35
Total Equip. Operating Time (hours):	26244
Total Number of: Failures (CM _f): 6	Corrective Maintenance Events (CM): 45
Total CMe Repair Man-Hours: 62	Total CM Repair Man-Hours:261
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374 90% Confidence Interval Upper Limit: 10044	Mean Time Between Corrective Maintenance MTBCM:583 90% Confidence Interval Upper Limit:759
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374	Mean Time Between Corrective Maintenance MTBCM:583
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374 90% Confidence Interval Upper Limit: 10044 Lower Limit: 2216 Maint Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM:583 90% Confidence Interval Upper Limit:759
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374 90% Confidence Interval Upper Limit: 10044 Lower Limit: 2216 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374 90% Confidence Interval Upper Limit: 10044 Lower Limit: 2216 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.9	Mean Time Between Corrective Maintenance MTBCM:583
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374 90% Confidence Interval Upper Limit: 10044 Lower Limit: 2216 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.9 MCMM _f : 4.5	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374 90% Confidence Interval Upper Limit: 10044 Lower Limit: 2216 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.9 MCMM _f : 4.5 Max. Observed MH: 40	Mean Time Between Corrective Maintenance MTBCM:583
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374 90% Confidence Interval Upper Limit: 10044 Lower Limit: 2216 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.9 MCMM _f : 4.5	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4374 90% Confidence Interval Upper Limit: 10044 Lower Limit: 2216 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.9 MCMM _f : 4.5 Max. Observed MH: 40 MCMM _f : 10.3	MTBCM:

Noun Name: Air Conditioning, R-11, C	hilled Water
General Description: Refrigeration Plant	Air Cndn Cap 110,00 Ton
CID/APL Number(s): 325010244,325010245	
Equipment Identification Code: AAO7	
Technical Manual: None	SOUR A COMPANY ASSOCIATION
Manufacturer: 66935 York Div. of Borg-W	arner Corp.
Basic	e Data
Ship Population: SSBN 655,656,657,658,65	9; Equip. Population/Ship: 2 ea/SSBN
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: $A = 0.05$, $B = 0.60$,	
Total Equip. Operating Time (hours):36	
	Corrective Maintenance Events (CM):
Total CM _e Repair Man-Hours: 1952	Total CM Repair Man-Hours: 4641
	0.67
Reliabili	ty Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 175 ⁴ 90% Confidence Interval Upper Limit: 2618 Lower Limit: 1218	Mean Time Between Corrective Maintenance MTBCM: 309 90% Confidence Interval Upper Limit: 362 Lower Limit: 266
Maintainal	pility Indices
G	Garatia Maintana (AN France)
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	MTTR _{cm} :
MTTR _f : 62.0 MCMM _f : 16.0	MCMM _{cm} : 6.0
Max. Observed MH: 760.0	Max. Observed MH: 824
MCMM _f : 93.0	MCMM _{cm} : 39.0
Variance: 45639	Variance: 15351
variance.	Variance.
Indicated Distribution(s): Exponential	Normal Log Normal _X
*REMARKS: *(1) ID-110 Ton Turbo ACNO	System; Dwg 67-58925 Unit No. 1;

Noun Name: Air Conditioning, R-12 Ch:	illed Water
General Description: Refrigeration Plant	Air Cndn Cap 24.00 Ton
CID/APL Number(s): 325010279,325010280	Federal Stock Number: None *(1)
Equipment Identification Code:AAO3	Sentement (describerant Paulo 2003)
Technical Manual: None	Suggest Industrial
Manufacturer: 66935 York Div. of Borg	g-Warner Corp.
Rec	ic Data
140	ic Dava
Ship Population: DEG 4, 5	Equip. Population/Ship: 5 ea/DEG
Equip. Population in Data Base:10	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 1.00, B = 0.90	0, C = 0.80
Total Equip. Operating Time (hours):1	8700
Total Number of: Failures (CM _f): 9	Corrective Maintenance Events (CM): 40
Total CM _f Repair Man-Hours: 41	Total CM Repair Man-Hours: 277
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maintenance) MTBCM _f : 16522 90% Confidence Interval Upper Limit: 31670 Lower Limit: 9468	MTBCM:3717
	bility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	rates) armed enough
MTTR _f : 3.0	MTTR _{cm} : 4.6
MCMM _f : 3.5	MCMM _{cm} : 3.8
Max. Observed MH:10.0	Max. Observed MH:35
MCMM _f : 4.5	МСММ _{ст} : 6.9
Variance: 7.7	Variance: 69
Indicated Distribution (s): Exponential	Normal Log Normal
REMARKS:_(1) 67-67954 LH;	MAR JAN DESCRIPTION (DR EMPARES

General Description: Refrigeration Plant A	
CID/APL Number(s): 325010380	
Equipment Identification Code: AAO7	
Technical Manual: *(1)	
Manufacturer: *(1)	
Basic	c Data
Ship Population: SSBN 640,641,642,643,644	Equip. Population/Ship: 1 ea/SSBN
Equip. Population in Data Base: 5	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.05, B = 0.60,	Data Assessment Period: 7/1/67 - 6/30/69 C = 0.60
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM): 144
Total CMe Repair Man-Hours: 2648	Total CM Repair Man-Hours: 6568
Maintenance Factors:	
Reliabili	ty Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 126
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval Upper Limit: 627	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval Upper Limit: 627 Lower Limit: 361 Maintainal	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146 Lower Limit: 111
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval Upper Limit: 627 Lower Limit: 361 Maintainab Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146 Lower Limit: 111
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval Upper Limit: 627 Lower Limit: 361 Maintainab Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146 Lower Limit: 111 sility Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval Upper Limit: 627 Lower Limit: 361 Maintainab Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 45.3	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146 Lower Limit: 111 MITTR _{cm} : 30.4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval Upper Limit: 627 Lower Limit: 361 Maintainab Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 45.3	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146 Lower Limit: 111 sility Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 471 90% Confidence Interval Upper Limit: 627 Lower Limit: 361 Maintainah Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 45.3 MCMM _f : 3.0 Max. Observed MH: 1000	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146 Lower Limit: 111 sility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 30.4 MCMM _{cm} : 3.0 Max. Observed MH: 1000
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :471	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146 Lower Limit: 111 Mility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 30.4 MCMM _{cm} : 3.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :471	Mean Time Between Corrective Maintenance MTBCM: 126 90% Confidence Interval Upper Limit: 146 Lower Limit: 111 Mility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 30.4 MCMM _{cm} : 3.0 Max. Observed MH: 1000 MCMM _{cm} : 45.6

CID/APL Number(s): 330010003	S *(1) Federal Stock Number: Various
Equipment Identification Code:	
	5, 0595-026,2010 size3, 0938-015-4010therm air*(
	34 Therm-Air, 70219 Chrysler
	Basic Data 11 ea/size 5
	l ea/size 3
	Equip. Population/Ship: 2 ea/size 7.5
	14 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LSD/S: A=0.90	
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	51 Corrective Maintenance Events (CM): 120
Total CM _f Repair Man-Hours:11	32 Total CM Repair Man-Hours: 1767
Maintenance Factors:	
(Forced Shutdown Corrective Main	
(Forced Shutdown Corrective Main MTBCM _f : 2824 90% Confidence Interval Upper Limit: 3616	Mean Time Between Corrective Maintenance Itenance) MTBCM: 1200 90% Confidence Interval Upper Limit: 1405
90% Confidence Interval Upper Limit: 3616	Mean Time Between Corrective Maintenance itenance) MTBCM: 1200 90% Confidence Interval
(Forced Shutdown Corrective Main MTBCM _f : 2824 90% Confidence Interval Upper Limit: 3616 Lower Limit: 2237	Mean Time Between Corrective Maintenance MTBCM: 1200 90% Confidence Interval Upper Limit: 1405 Lower Limit: 1032 Maintainability Indices
(Forced Shutdown Corrective Main MTBCM _f : 2824 90% Confidence Interval Upper Limit: 3616 Lower Limit: 2237 Corrective Maintenance — (Forced Shutdown)	Mean Time Between Corrective Maintenance MTBCM: 1200 90% Confidence Interval Upper Limit: 1405 Lower Limit: 1032 Maintainability Indices
(Forced Shutdown Corrective Main MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1200 90% Confidence Interval Upper Limit: 1405 Lower Limit: 1032 Maintainability Indices down Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Main MTBCMf: 2824 90% Confidence Interval Upper Limit: 3616 Lower Limit: 2237 Corrective Maintenance — (Forced Shutden Failure Events Only) MTTRf: 14.8	Mean Time Between Corrective Maintenance MTBCM: 1200 90% Confidence Interval Upper Limit: 1405 Lower Limit: 1032 Maintainability Indices down Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Main MTBCMf: 2824 90% Confidence Interval Upper Limit: 3616 Lower Limit: 2237 Corrective Maintenance — (Forced Shutden Failure Events Only) MTTRf: 14.8	Mean Time Between Corrective Maintenance MTBCM: 1200 90% Confidence Interval Upper Limit: 1405 Lower Limit: 1032 Maintainability Indices MTTR _{cm} : 9.8 MCMM _{cm} : 7.0 Max. Observed MH: 200
(Forced Shutdown Corrective Main MTBCMf: 2824 90% Confidence Interval Upper Limit: 3616 Lower Limit: 2237 Corrective Maintenance — (Forced Shutden Failure Events Only) MTTRf: 14.8 MCMMf: 10.0 Max. Observed MH: 200	Mean Time Between Corrective Maintenance MTBCM: 1200 90% Confidence Interval Upper Limit: 1405 Lower Limit: 1032 Maintainability Indices MTTR _{cm} : 9.8 MCMM _{cm} : 7.0 Max. Observed MH: 200
(Forced Shutdown Corrective Main MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1200 90% Confidence Interval Upper Limit: 1405 Lower Limit: 1032 Maintainability Indices MTTR _{cm} : 9.8 MCMM _{cm} : 7.0
(Forced Shutdown Corrective Main MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1200 90% Confidence Interval Upper Limit: 1405 Lower Limit: 1032 Maintainability Indices down Corrective Maintenance — (All Events) MTTR _{cm} : 9.8 MCMM _{cm} : 7.0 Max. Observed MH: 200 MCMM _{cm} : 14.7 Variance: 553

Equipment Identification

	- Self Contained
	size 3, 5,
	Federal Stock Number: Various
Equipment Identification Code: AAO4	
Technical Manual: <u>359-0901</u> , 0959-026-2	
Manufacturer: 66935 York, 06534 Therr	n-Air
i i europea (c	Basic Data
ar a real range	9 ea/size 3
	Equip. Population/Ship: 10 ea/size 5
	Data Assessment Period: 7/1/67 - 6/30/69
	65, C=35
Total Equip. Operating Time (hours): 20	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):25
Total CM _f Repair Man-Hours: 31	Total CM Repair Man-Hours:121
Maintenance Factors: 0.67	Velacionary Builting
90% Confidence Interval Upper Limit: 101660	Upper Limit: <u>11523</u>
Lower Limit: 19051	Lower Limit: 5736
Mainta	ainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Veftur Aleest valley
MTTR _f : 4.1	MTTR _{cm} :3.6
MCMMf.	MCMM _{cm} :
Max. Observed MH: 21	Max. Observed MH:54
MCMM _f :6.2	MCMM _{cm} :5,4
Variance:70	Variance: 121
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 330010003, 3301900	39, 330190040, 330190011,

2-308

Noun Name: Air Conditioning Pl	ant - Self Contained
	ner size 7, 5, 3
	1) Federal Stock Number: Various
Equipment Identification Code:A	A04
Technical Manual: 359-0901, 0938-04	0-4010, 0959-026-2010
Manufacturer: 66935 York, 70219	Chrysler, 06534 Therm-Air, 10855 Carrier
	Basic Data 7 ea/size 7.5 9 ea/size 3
Ship Population: LSD-31	Equip. Population/Ship: 10 ea/size 5
	6 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LSD/S: A=0.90, B	=0.65, C=0.35
Total Equip. Operating Time (hours):2	72704
Total Number of: Failures (CM _f): 20	Corrective Maintenance Events (CM): 62
Total CM ₆ Repair Man-Hours:153	Total CM Repair Man-Hours: 340
Maintenance Factors:	
MTBCM _f : 13635 90% Confidence Interval	MTBCM: 4398 90% Confidence Interval
Upper Limit: 20575	Upper Limit: 5494
Lower Limit: 9383	Lower Limit: 3560
M	aintainability Indices
Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 5.1 MCMM _f : 5.0	MTTR _{cm} : 3.7 MCMM _{cm} : 3.0
Max. Observed MH: 24	
MCMMe:7.6	MCMM _{cm} : 5.5
Variance: 50.1	Variance: 58.3
Indicated Distribution(s): Exponential	Normal Log NormalX
	90039, 330190030, 330080003, 330190016, not identifiable by specific equipment
design.	
	2-309

Recommend Recommendation Recommend	SID/APL Number(s): 330010004 *(1)	Federal Stock Number: Various
Residential Manual: 359-0901, 0959-031-2010, 0959-026-2010		
LST-1159, 1161, 1166, 1167, Equip. Population L52 S1ze 3's *(2)		
LST-1159, 1161, 1166, 1167, Equip. Population 152 Size 3's *(2)	Manufacturer: 66935 York, 10855 Carr	ier, 06534 Therm Air
LST-1159, 1161, 1166, 1167, Equip. Population 1169, 1170 Equip. Population 1169, 1170 Data Assessment Period: 7/1/67 - 6/30/69 Data Assessment Period: 7/1/67 - 6/30/69 Data Assessment Period: 7/1/67 - 6/30/69 Total Equip. Operating Time (hours): 1926760 Total Equip. Operating Time (hours): 1926760 Total Number of: Failures (CMf): 103 Corrective Maintenance Events (CM): 257 Total CMf Repair Man-Hours: 2077 Total CM Repair Man-Hours: 4220 Maintenance Factors:		
Ship Population: 1169, 1170		
Equip. Population in Data Base:	LST-1159,1161,1166,116	67,
Utilization Factors: LST/S; A=0,90, B=0,75, C=0,60	Ship Population: 109,1170	Pote Assessment Poriod: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours): 1926760 Total Number of: Failures (CM _f): 103		
Total Number of: Failures (CMf): 103		
Total CM Repair Man-Hours:	Total Number of Failures (CMa): 103	Corrective Maintenance Events (CM): 257
Maintenance Factors:		
Mean Time Between Failure	Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:
MTBCM _f : 18706		autility marces
90% Confidence Interval Upper Limit: 22174 Lower Limit: 15881 Upper Limit: 8333 Lower Limit: 6761 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 13.3 MCMM _f : 8.7 Max. Observed MH: 110 Max. Observed MH: 173 MCMM _f : 20.0 Variance: 556 Indicated Distribution (s): Exponential Normal Log Normal X *REMARKS: *(1)330190039, 330010003, 330010005, 330080003, 330190016, 330190040, *(2) 17 size 5's, 15 size 7.5's		elion
Lower Limit: 15881 Lower Limit: 6761	WI I DUNIF.	MIBCM:
Maintainability Indices		90% Confidence Interval
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f : 8.7 MCMM _{cm} : 4.5 MCMM _{cm} : MCMM _{cm} : MCMM _{cm} :	90% Confidence Interval Upper Limit: 22174	90% Confidence Interval Upper Limit: 8333
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f : 8.7 MCMM _{cm} : 4.5 MCMM _{cm} : MCMM _{cm} :	90% Confidence Interval Upper Limit: 22174	90% Confidence Interval Upper Limit: 8333
Failure Events Only) MTTR _f :13.3	90% Confidence Interval Upper Limit: 22174 Lower Limit: 15881	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761
Failure Events Only) MTTR _f : 13.3	90% Confidence Interval Upper Limit: 22174 Lower Limit: 15881	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761
MTTR _f : 13.3 MTTR _{cm} : 10.9 MCMM _f : 8.7 MCMM _{cm} : 4.5 Max. Observed MH: 110 Max. Observed MH: 173 MCMM _f : 20.0 MCMM _{cm} : 16.4 Variance: 556 Indicated Distribution (s): Exponential Normal Log Normal X *REMARKS: *(1)330190039, 330010003, 330010005, 330080003, 330190016, 330190040, *(2) 17 size 5's, 15 size 7.5's	90% Confidence Interval Upper Limit: 22174 Lower Limit: 15881 Main	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761 tainability Indices
MCMM _f :	90% Confidence Interval Upper Limit: 22174 Lower Limit: 15881 Maint Corrective Maintenance — (Forced Shutdown	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761 tainability Indices Corrective Maintenance — (All Events)
MCMM _f :	90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761 tainability Indices Corrective Maintenance — (All Events)
Variance: Var	90% Confidence Interval Upper Limit:2174	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.9 MCMM _{cm} : 4.5
*REMARKS: *(1)330190039, 330010003, 330010005, 330080003, 330190016, 330190040, *(2) 17 size 5's, 15 size 7.5's	90% Confidence Interval Upper Limit:2174 Lower Limit:15881 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f :8.7 Max. Observed MH:110	90% Confidence Interval Upper Limit:8333 Lower Limit:6761 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :10.9 MCMM _{cm} :4.5 Max. Observed MH:173
*REMARKS: *(1)330190039, 330010003, 330010005, 330080003, 330190016, 330190040, *(2) 17 size 5's, 15 size 7.5's	90% Confidence Interval Upper Limit:2174 Lower Limit:15881 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f :8.7 Max. Observed MH:110	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.9 MCMM _{cm} : 4.5 Max. Observed MH: 173 MCMM _{cm} : 16.4
330190040. *(2) 17 size 5's, 15 size 7.5's	90% Confidence Interval Upper Limit:22174 Lower Limit:15881 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f :8.7 Max. Observed MH:110 MCMM _f :20.0	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.9 MCMM _{cm} : 4.5 Max. Observed MH: 173 MCMM _{cm} : 16.4
330190040. *(2) 17 size 5's, 15 size 7.5's	90% Confidence Interval Upper Limit:22174 Lower Limit:15881 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.3 MCMM _f :8.7 Max. Observed MH:10 MCMM _f :20.0 Variance:	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.9 MCMM _{cm} : 4.5 Max. Observed MH: 173 MCMM _{cm} : 16.4 Variance: 556
	90% Confidence Interval Upper Limit:22174	90% Confidence Interval Upper Limit: 8333 Lower Limit: 6761 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 10.9 MCMM _{cm} : 4.5 Max. Observed MH: 173 MCMM _{cm} : 16.4 Variance: 556 Normal Log Normal X
	90% Confidence Interval Upper Limit:	90% Confidence Interval

General Description: All Gond	litioner S	ize 7.5
		Federal Stock Number: None
		S. C.
Manufacturer: 66935 York		
	Bas	ic Data
Ship Population: CVA-61		Equip. Population/Ship: 1 size 7.5
Equip. Population in Data Base:	1	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: CVA/S: A=0.9	90, B=0.75	, C=0.60
Total Equip. Operating Time (hours):	1	4432
Total Number of: Failures (CM _f):_	1	Corrective Maintenance Events (CM):
		Total CM Repair Man-Hours:284
Maintenance Factors:	0.67	Total Oli Reput Man-Hous.
Mean Time Between Failure (Forced Shutdown Corrective Ma MTBCM. 14432	intenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Ma MTBCM _f : 14432 90% Confidence Interval Upper Limit: 281326	intenance)	Mean Time Between Corrective Maintenance MTBCM: 1312 90% Confidence Interval Upper Limit: 2340
(Forced Shutdown Corrective Ma MTBCM _f : 14432 90% Confidence Interval	intenance)	Mean Time Between Corrective Maintenance MTBCM: 1312 90% Confidence Interval
(Forced Shutdown Corrective Ma MTBCM _f : 14432 90% Confidence Interval Upper Limit: 281326 Lower Limit: 3042 Corrective Maintenance — (Forced Shu	intenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 1312 90% Confidence Interval Upper Limit: 2340 Lower Limit: 793 ability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Ma MTBCM _f : 14432 90% Confidence Interval	intenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 1312 90% Confidence Interval Upper Limit: 2340 Lower Limit: 793 ability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Ma MTBCM _f : 14432 90% Confidence Interval Upper Limit: 281326 Lower Limit: 3042 Corrective Maintenance — (Forced Shu Failure Events Only) MTTR _f : 3.3 MCMM _f : 0	intenance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 1312 90% Confidence Interval Upper Limit: 2340 Lower Limit: 793 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 17.2 MCMM _{cm} : 6.0
(Forced Shutdown Corrective Ma MTBCM _f : 14432 90% Confidence Interval	intenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 1312 90% Confidence Interval
(Forced Shutdown Corrective Ma MTBCM _f :	intenance) Maintain	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Ma MTBCM _f :	intenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 1312 90% Confidence Interval
(Forced Shutdown Corrective Ma MTBCM _f :	intenance) Maintain	Mean Time Between Corrective Maintenance MTBCM:

eneral Description: Air Conditioner	size 5
ID/APL Number(s): 330090038	Federal Stock Number: 2S 4120-921-5693
Equipment Identification Code: AAO4	
Technical Manual: 0938-040-4010	
	emp Division
•	
	Basic Data
Ship Population: AS-33	Equip. Population/Ship: 2 size 5's
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AS/S: A=0.90, B=0.7	75, C=0.60
Total Equip. Operating Time (hours):	26381
	Corrective Maintenance Events (CM):15
Total CM _f Repair Man-Hours: 48	Total CM Repair Man-Hours:454
Maintenance Factors:0.67	7 .
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 13190 90% Confidence Interval Upper Limit: 74239	Mean Time Between Corrective Maintenance MTBCM: 1758 90% Confidence Interval Upper Limit: 2853
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 13190 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 1758 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1758 90% Confidence Interval Upper Limit: 2853
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 13190 90% Confidence Interval Upper Limit: 74239 Lower Limit: 4190 Maintenance	Mean Time Between Corrective Maintenance MTBCM: 1758 90% Confidence Interval Upper Limit: 2853 Lower Limit: 1142 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13190 90% Confidence Interval Upper Limit:74239 Lower Limit:4190 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :16.1 MCMM _f :24.1	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13190 90% Confidence Interval Upper Limit:74239 Lower Limit:4190 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :16.1 MCMM _f :24.1	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

	lant - Self Contained
	oner sizes 7.5, & size 3
	(1) Federal Stock Number: Various
Equipment Identification Code:	
Technical Manual: 0938-040-4010, (
Manufacturer: 10219 Chrysler - Al	rtemp Div., 06534 Therm-Air
	Basic Data 5 size 7.5's
Ship Population: CVA-63	Equip. Population/Ship: 1 size 3
Equip. Population in Data Base:	6 Data Assessment Period: 7/1/67 - 6/30/6
	B=0.75, C=0.60
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM): 17
생기는 하고 있는 것이 그렇게 하는 것이 되었다면 하고 있다.	Total CM Repair Man-Hours:244
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maintena	Reliability Indices ** Mean Time Between Corrective Maintenance unce)
Mean Time Between Failure (Forced Shutdown Corrective Maintena	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintena	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance ance) MTBCM: 5013 90% Confidence Interval
(Forced Shutdown Corrective Maintena MTBCM _f : 28411	Mean Time Between Corrective Maintenance (ance) MTBCM:5013 90% Confidence Interval Upper Limit:7869
(Forced Shutdown Corrective Maintena MTBCM _f : 28411 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f : 28411 90% Confidence Interval Upper Limit: 104238 Lower Limit: 10993	Mean Time Between Corrective Maintenance (ance) MTBCM:5013 90% Confidence Interval Upper Limit:7869
(Forced Shutdown Corrective Maintena MTBCM _f : 28411 90% Confidence Interval Upper Limit: 104238 Lower Limit: 10993	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f : 28411 90% Confidence Interval Upper Limit: 104238 Lower Limit: 10993 Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f :90% Confidence Interval	Mean Time Between Corrective Maintenance (ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f :28411 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f :28411 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintena MTBCM _f :	Mean Time Between Corrective Maintenance ance) MTBCM:

Noun Name: Air Conditioning Plant	- Self Contained
General Description: Air Conditioner	
CID/APL Number(s): 330090039	Federal Stock Number: 2S4120-921-5694
Equipment Identification Code: AAO4	
Technical Manual: 0938-040-4010	
Manufacturer: 70219 Chrysler-Airtemp-	Division
В	asic Data
Ship Population: CVA-66	Equip. Population/Ship: 1 size 7.5
Equip. Population in Data Base:1	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: CVA/S: A=0.90, B=0.7	5, C=0.60
Total Equip. Operating Time (hours):	12993
	Corrective Maintenance Events (CM):6
Total CMc Repair Man-Hours:	Total CM Repair Man-Hours: 41
Maintenance Factors: 0.67	_ roun on topus man round
MTBCM _f : 18745** 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 2165 90% Confidence Interval Upper Limit: 4972 Lower Limit: 1097
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :	$MTTR_{cm}$: $\frac{4.5}{2.5}$
MCMM _f :	MCMM _{cm} : 8.5
Max. Observed MH:	Max. Observed MH: 9.5
MCMM _f :	MCMM _{cm} : 6.8
Variance:	Variance: 11
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	Normal Log Normal

Noun Name: Air Conditioning Plant -	- Self Contained
General Description: Air Conditioner s	size's 7.5
	Federal Stock Number: 28 4120-921-5694
	18 CA STATE OF THE
Technical Manual: <u>0938-040-4010</u>	
Manufacturer: 70219 Chrysler-Airtemp I	Division
Ba	sic Data
	Equip. Population/Ship: 1 size 7.5
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DE/S: A=0.90, B=0.75,	
Total Equip. Operating Time (hours):	12776
Total Number of: Failures (CM _f): 1	_ Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 2	Total CM Repair Man-Hours: 13
Maintenance Factors: 0.67	
MTBCM _f :12776 90% Confidence Interval Upper Limit:249045 Lower Limit:2693	90% Confidence Interval Upper Limit: 3889 Lower Limit: 972
Lower Limit: 2093	Lower Limit:9/2
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	(Anth-passe System)
$ \mathbf{MTTR}_{\mathbf{f}}: \frac{1 \cdot 3}{\mathbf{MCMM}_{\mathbf{f}}: 0} $	MTTR _{cm} : 1.3 MCMM _{cm} : 2.0
Max. Observed MH:	Max. Observed MH:3.0
MCMM _f : 2.0	MCMM _{cm} : 1.9
Variance:	Variance: 0.9
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	<u> </u>
	Decree of the second second section of the second s

oun Name: Air Conditioning Plan	Dell Contained
General Description: Air Conditione	er sizes 5 & 7.5
CID/APL Number(s): 330090039 *(1)	Federal Stock Number: Various
Equipment Identification Code:AAO	
Technical Manual: <u>0938-040-4010</u> , 093	88-015-40 10, -938-004-5000
Manufacturer: 70219 Chrysler-Airtem	p-Div., 06534 Therm-Air
	Basic Data
Ship Population: LSD-35	Equip. Population/Ship: 2 size 5 4 size 7.5
Equip Population in Data Base: 6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LSD/S: A=0.90, B=0	
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM): 11
	Total CM Repair Man-Hours: 101
Maintenance Factors:0.6	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM: 5957 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765	мтвсм :5957
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval Upper Limit: 184410 Lower Limit: 10409 Main	MTBCM: 5957 90% Confidence Interval Upper Limit: 10623 Lower Limit: 3599
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 32765 90% Confidence Interval	MTBCM:

Noun Name: Air Conditioning		
General Description: Air Condit	ioner s	izes 5 & 7.5
CID/APL Number(s): 330090039	*(1)	Federal Stock Number:
Equipment Identification Code:	AAO4	
Technical Manual: <u>0938-040-4010</u>		
Manufacturer: 70219 Chrysler-Ai	rtemp D	ivision
	Basi	ic Data
Ship Population, LST-1162		2 sizes 5 Equip. Population/Ship: 2 sizes 7.5
Fauin Population in Data Reserv	11	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: LST/S: A=0.90,		
Total Equip. Operating Time (hours):		
		Corrective Maintenance Events (CM):
Maintenance Factors:		Total CM Repair Man-Hours: 0.5
maintenance Factors:	0.01	
Mean Time Between Failure (Forced Shutdown Corrective Mainter		Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Mainter		Mean Time Between Corrective Maintenance
	nance)	
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval Upper Limit: 749474	nance)	Mean Time Between Corrective Maintenance MTBCM: 38448 90% Confidence Interval Upper Limit: 749474
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval	nance)	Mean Time Between Corrective Maintenance MTBCM: 38448. 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval Upper Limit: 749474	nance)	Mean Time Between Corrective Maintenance MTBCM: 38448 90% Confidence Interval Upper Limit: 749474
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval Upper Limit: 749474 Lower Limit: 8105	nance) - - - Maintaina	Mean Time Between Corrective Maintenance MTBCM: 38448 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval Upper Limit: 749474 Lower Limit: 8105	nance) - - - Maintaina	Mean Time Between Corrective Maintenance MTBCM: 38448 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval	nance) - - - Maintaina	Mean Time Between Corrective Maintenance MTBCM: 38448 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval	nance) - - - Maintaina	Mean Time Between Corrective Maintenance MTBCM:38448 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval	nance) - - - Maintaina	Mean Time Between Corrective Maintenance MTBCM: 38448. 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval Upper Limit: 749474 Lower Limit: 8105 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.33 MCMM _f : 0 Max. Observed MH: 0 MCMM _f : 0.5	nance) - - - Maintaina	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval	nance) - - - Maintaina	Mean Time Between Corrective Maintenance MTBCM:38448 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f :38448 90% Confidence Interval	nance) Maintaina	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval	nance) Maintaina	Mean Time Between Corrective Maintenance MTBCM:38448 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 38448 90% Confidence Interval	nance) Maintaina	Mean Time Between Corrective Maintenance MTBCM:38448 90% Confidence Interval

Noun Name: Air Conditioning		
General Description: Air Condit	ioner s	izes 7.5
		Federal Stock Number: 284120-921-5694
Equipment Identification Code:		Paulingues 184 Mississippe Code BROA
Technical Manual: 0938-040-4010		NY STATE OF THE ST
Manufacturer: 70219 Chrysler Ai	rtemp D	ivision
		i,
	Basi	ic Data
Ship Population: LST 1168		Equip. Population/Ship: 3 s1ze 7.5
Equip. Population in Data Base:	3	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LST/S: A=0.90.	B=0.75	C=0.60
		682
Total Number of: Failures (CM _f):	1	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 40)	Total CM Repair Man-Hours: 40
Maintenance Factors:		The second secon
(Forced Shutdown Corrective Mainte	nance)	Mean Time Between Corrective Maintenance MTBCM: 30682
(Forced Shutdown Corrective Mainte MTBCM _f : 30682 90% Confidence Interval	nanœ)	Mean Time Between Corrective Maintenance MTBCM: 30682 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 30682	nanœ)	Mean Time Between Corrective Maintenance MTBCM: 30682
(Forced Shutdown Corrective Mainte MTBCM _f : 30682 90% Confidence Interval Upper Limit: 598090	nance)	Mean Time Between Corrective Maintenance MTBCM: 30682 90% Confidence Interval Upper Limit: 598090
(Forced Shutdown Corrective Mainte MTBCM _f : 30682 90% Confidence Interval Upper Limit: 598090	nance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 30682 90% Confidence Interval Upper Limit: 598090 Lower Limit: 6468
(Forced Shutdown Corrective Mainte MTBCM _f : 30682 90% Confidence Interval Upper Limit: 598090 Lower Limit: 6468 Corrective Maintenance — (Forced Shutdo Failure Events Only)	nance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 30682 90% Confidence Interval Upper Limit: 598090 Lower Limit: 6468 bility Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainte MTBCM _f : 30682 90% Confidence Interval Upper Limit: 598090 Lower Limit: 6468 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 26.8	nance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 30682 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 30682 90% Confidence Interval Upper Limit: 598090 Lower Limit: 6468 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 26.8 MCMM _f : 0	mance) Maintaina	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainte MTBCM _f : 30682 90% Confidence Interval Upper Limit: 598090 Lower Limit: 6468 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 26.8 MCMM _f : 0 Max. Observed MH: 0	mance) Maintaina	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f : 30682 90% Confidence Interval	mance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 30682 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 30682 90% Confidence Interval Upper Limit: 598090 Lower Limit: 6468 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 26.8 MCMM _f : 0 Max. Observed MH: 0	mance) Maintaina	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f : 30682 90% Confidence Interval	mance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 30682 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 30682 90% Confidence Interval	mance) Maintaina	MCMM _{cm} :

Noun Name: Air Conditioning Plant	- Self Containing
General Description: Air Conditioning	
CID/APL Number(s): 330190008 *(1)	
Equipment Identification Code: AAO4	
Technical Manual: 359-0944	
Manufacturer: 06534 Therm-Air	Manufacture (ESA) Section 1
Ba	sic Data
GI: P AX 100	5 size 5's
Ship Population: AV-100	Equip. Population/Ship: 1 size 3 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AØ/S: A=0.90, B=0.75	Data Assessment Period: (/1/0/ - 0/30/09
Utilization Factors: AV/S: A=0.90, B=0.13	8314
Total Equip. Operating Time (hours): 7	Corrective Maintenance Events (CM):5
요즘 그 이 그 보고 있는데 이 없는데 나는 그 없는데 나는 아니라 하셨다. 그를 하는데 하는데 이 없었다. 이 없는데 없다.	
	_ Total CM Repair Man-Hours:56.4
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 19578	MTBCM: 15662
90% Confidence Interval	90% Confidence Interval
Upper Limit: 57318	Upper Limit:39750
Lower Limit: 8556	Lower Limit: 7449
Maintair	nability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Parison Locate Curtes
MTTR _f : 9.3	MTTR _{cm} :7.5
MCMM _f : 2.3	MCMM _{cm} :1.0
Max. Observed MH:50.7	Max. Observed MH: 50.7
MCMM _f :14.0	MCMM _{cm} : 11.3
Variance: 600	Variance: 487
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 330190011	- 100 PARSA A
** Data reported by EIC only, not	identifiable to specific equipments.

Adm Condition	aiman 2
	sizes 3
	Federal Stock Number: None
Equipment Identification Code: AAO4	
Technical Manual: 359-0944	
Manufacturer: 06534 Therm-Air	**
В	asic Data
Ship Population: AØ-143	Equip. Population/Ship: 4 size 3's
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AØ/S: A=0.90, B=0.75	C=0.60
Total Equip Operating Time (hours): 51	517
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):14
Total CM _f Repair Man-Hours:58	Total CM Repair Man-Hours:100
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7359 90% Confidence Interval Upper Limit: 15681 Lower Limit: 3918	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7359 90% Confidence Interval Upper Limit: 15681 Lower Limit: 3918	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 3679 90% Confidence Interval Upper Limit: 6087 Lower Limit: 2354 nability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

General Description: Air Conditioner	82=8 1
CID/APL Number(s): 330190011	Federal Stock Number: None
Equipment Identification Code: AAO4	
Technical Manual: None	
Manufacturer: 06534 Therm-Air	
e e E	Basic Data
Ship Population: DD-888	Equip. Population/Ship: 1 size 5
	Data Assessment Period: 7/1/67 - 6/30/6
	5. C=0.60
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f): 12	Corrective Maintenance Events (CM):44
Total CMa Repair Man-Hours: 145	Total CM Repair Man-Hours:584
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTRCM: 299
Mean Time Between Failure	Mean Time Between Corrective Maintenance MTBCM: 299 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1099 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 299
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679	Mean Time Between Corrective Maintenance MTBCM: 299 90% Confidence Interval Upper Limit: 392
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679	Mean Time Between Corrective Maintenance MTBCM: 299 90% Confidence Interval Upper Limit: 392 Lower Limit: 233 inability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 299 90% Confidence Interval Upper Limit: 392 Lower Limit: 233 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.1	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.1 MCMM _f : 5.0	Mean Time Between Corrective Maintenance MTBCM:90 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.1 MCMMf: 5.0 Max. Observed MH: 95	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.1 MCMMf: 5.0 Max. Observed MH: 95 MCMMf: 12.1	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.1 MCMMf: 5.0 Max. Observed MH: 95	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1099 90% Confidence Interval Upper Limit: 1906 Lower Limit: 679 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.1 MCMMf: 5.0 Max. Observed MH: 95 MCMMf: 12.1	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Air Conditioning	Plant -	Self Contained
General Description: Air Condit	ioner Si	ze 5
CID/APL Number(s): 330190016	*(1)	Federal Stock Number: Various
Equipment Identification Code:	AAO4	2006 cate/) sectorational transpos
Technical Manual: 0959-031-2010,	359-0901	north and thinks
Manufacturer: 06534 Therm-Air:	66935 Yo	rk
	Basic	e Data
Ship Population: LSD-33	212	Equip. Population/Ship: 5 ea/size 5
Equip. Population in Data Base:	5	Data Assessment Period: 7/1/67 - 6/30/69
		C=0.35
Total Equip. Operating Time (hours):	5686	55
Total Number of: Failures (CM _f):	5	Corrective Maintenance Events (CM):8
Total CM _f Repair Man-Hours:54	0	Total CM Repair Man-Hours: 1045
Maintenance Factors:	0.67	TO Description of the Control of the
(Forced Shutdown Corrective Maint	enance)	Mean Time Between Corrective Maintenance
MTBCM _f : 11373 90% Confidence Interval	enance)	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 11373	enance)	Mean Time Between Corrective Maintenance MTBCM: 7108
(Forced Shutdown Corrective Mainte MTBCM _f : 11373 90% Confidence Interval Upper Limit: 28863	enance)	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval Upper Limit: 14285
(Forced Shutdown Corrective Mainta MTBCM _f : 11373 90% Confidence Interval	enance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval Upper Limit: 14285 Lower Limit: 3939 polity Indices
(Forced Shutdown Corrective Mainta MTBCM _f : 11373 90% Confidence Interval Upper Limit: 28863 Lower Limit: 5409 Corrective Maintenance — (Forced Shutdown Failure Events Only)	enance) Maintainab	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval Upper Limit: 14285 Lower Limit: 3939 Dility Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainta MTBCM _f : 11373 90% Confidence Interval Upper Limit: 28863 Lower Limit: 5409 Corrective Maintenance — (Forced Shutdo	enance) Maintaina	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval Upper Limit: 14285 Lower Limit: 3939 Dility Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainta MTBCM _f : 11373 90% Confidence Interval Upper Limit: 28863 Lower Limit: 5409 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 72.0 MCMM _f : 98.9	enance) Maintainab	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval
(Forced Shutdown Corrective Mainta MTBCM _f : 11373 90% Confidence Interval	enance) Maintainab	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval
(Forced Shutdown Corrective Mainta MTBCM _f : 11373 90% Confidence Interval Upper Limit: 28863 Lower Limit: 5409 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 72.0 MCMM _f : 98.9 Max. Observed MH: 260 MCMM _f : 108.0	enance) Maintainab	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval Upper Limit: 14285 Lower Limit: 3939 Dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 87.1 MCMM _{cm} : 69.5 Max. Observed MH: 502 MCMM : 130.7
(Forced Shutdown Corrective Mainta MTBCM _f : 11373 90% Confidence Interval Upper Limit: 28863 Lower Limit: 5409 Corrective Maintenance — (Forced Shutdon Failure Events Only) MTTR _f : 72.0 MCMM _f : 98.9 Max. Observed MH: 260 MCMM _f : 108.0 Variance: 10094	enance) Maintainal	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval Upper Limit: 14285 Lower Limit: 3939 Dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 87.1 MCMM _{cm} : 69.5 Max. Observed MH: 502 MCMM _{cm} : 130.7 Variance: 30649
(Forced Shutdown Corrective Mainta MTBCM _f : 11373 90% Confidence Interval	enance) Maintainal	Mean Time Between Corrective Maintenance MTBCM: 7108 90% Confidence Interval Upper Limit: 14285 Lower Limit: 3939 Dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 87.1 MCMM _{cm} : 69.5 Max. Observed MH: 502 MCMM : 130.7

General Description: Air Conditioner	size [.5
CID/APL Number(s): 330190030	Federal Stock Number: None
Equipment Identification Code: AAO4	
Technical Manual: 0938-015-4010	The second secon
Manufacturer: 06534 Therm-Air	TEATHOR STORE THE STORE STORE
Na.	Basic Data
Ship Population: AØ-146. CVA 64	l size 7.5 CVA Equip. Population/Ship: 4 size 7.5 AO
	Data Assessment Period: 7/1/67 - 6/30/69
	5, C=0.60; CVA/S: A=0.90.B=0.75,C=0.60;
Total Equip. Operating Time (hours): 669	
	Corrective Maintenance Events (CM): 84
	Total CM Repair Man-Hours:397
	1otal CM Repair Man-Hours:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Texas and second second
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4780 90% Confidence Interval Upper Limit: 7908	Mean Time Between Corrective Maintenance MTBCM: 796 90% Confidence Interval Upper Limit: 963
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4780 90% Confidence Interval Upper Limit: 7908 Lower Limit: 3058	Mean Time Between Corrective Maintenance MTBCM: 796 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4780 90% Confidence Interval Upper Limit: 7908 Lower Limit: 3058	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4780 90% Confidence Interval Upper Limit: 7908 Lower Limit: 3058 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4	Mean Time Between Corrective Maintenance MTBCM: 796 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4780 90% Confidence Interval Upper Limit: 7908 Lower Limit: 3058 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4 MCMM _f : 5.3	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4780 90% Confidence Interval Upper Limit: 7908 Lower Limit: 3058 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4 MCMM _f : 5.3 Max. Observed MH: 74	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 4780 90% Confidence Interval Upper Limit: 7908 Lower Limit: 3058 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4 MCMM _f : 5.3	Mean Time Between Corrective Maintenance MTBCM:

Basic Data Ship Population: AØ=148			ze 7.5
Ship Population: AØ=148	CID/APL Number(s): 33019003	30	Federal Stock Number: None
Ship Population: AØ=148			
Ship Population: AØ=148	Technical Manual: _0938-015-401	0	COLORADO DO EL DE ANTIGEM DE SENEZ
Ship Population: AØ=148	Manufacturer: 06534 Therm-Air	·	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ship Population: AØ=148			
Equip. Population in Data Base:		Basic	Data
Equip. Population in Data Base:	Ship Population: AØ-7/48		Equip Population/Ship: 7 size 7 5
Utilization Factors: AØ/S: A=0.90, B=0.75, C=0.60			
Total Equip. Operating Time (hours):			
Total Number of: Failures (CMf): 2			
Total CM _f Repair	Total Number of: Failures (CM _f):_	5	Corrective Maintenance Events (CM):6
Reliability Indices ** Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Maintainability Indices Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 43 MCMMf: 65 Max. Observed MH: 0.8 Max. Observed MH: 0.8 Max. Observed MH: 0.8 Max. Observed MH: 97 MCMMf: 1457 Indicated Distribution(s): Exponential Normal Log Normal			
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Maintainability Indices MTBCM: 16199 90% Confidence Interval Upper Limit: 37198 Lower Limit: 37198 Lower Limit: 8208 Maintainability Indices Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 43 MCMMf: .65 Max. Observed MH: 0.8 Max. Observed MH: 97 MCMMf: .65 Variance: 0.045 Normal MCMMmcm: 21.7 Variance: 1457 Normal Log Normal	Maintenance Factors:	0.67	
Lower Limit:	(Forced Shutdown Corrective Ma	intenance)	Mean Time Between Corrective Maintenance
Upper Limit: 273530	(Forced Shutdown Corrective Ma	intenance)	Mean Time Between Corrective Maintenance
Lower Limit: 15439 Lower Limit: 8208	(Forced Shutdown Corrective Ma MTBCM _f : 48599	intenance)	Mean Time Between Corrective Maintenance MTBCM: 16199
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :43 MCMM _f :65 Max. Observed MH:08 MCMM _f :65 Variance:0045 Indicated Distribution (s): Exponential Corrective Maintenance — (All Events) MTTR _{cm} :14	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval	intenance)	Mean Time Between Corrective Maintenance MTBCM: 16199 90% Confidence Interval Upper Limit: 37198
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :43 MCMM _f :65 Max. Observed MH:08 MCMM _f :65 Variance:0045 Indicated Distribution (s): Exponential Corrective Maintenance — (All Events) MTTR _{cm} :14	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530	intenance)	Mean Time Between Corrective Maintenance MTBCM: 16199 90% Confidence Interval Upper Limit: 37198
Failure Events Only) MTTR _f :43 MCMM _f :65 Max. Observed MH:08 MCMM _f :65 MCMM _f :65 Variance:0.045 Indicated Distribution (s): Exponential MTTR _{cm} :14.4 MCMM _{cm} :3.3 Max. Observed MH:	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530	intenance)	Mean Time Between Corrective Maintenance MTBCM:
MTTR _f : .43 MCMM _f : .65 Max. Observed MH: 0.8 Max. Observed MH: 97 MCMM _f : .65 Variance: 0.045 Indicated Distribution (s): Exponential Normal Log Normal	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439	intenance) Maintainabi	Mean Time Between Corrective Maintenance MTBCM: 16199 90% Confidence Interval Upper Limit: 37198 Lower Limit: 8208
MCMM _f :65	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Corrective Maintenance — (Forced Shu	intenance) Maintainabi	Mean Time Between Corrective Maintenance MTBCM: 16199 90% Confidence Interval Upper Limit: 37198 Lower Limit: 8208
Max. Observed MH:	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Corrective Maintenance — (Forced Shufailure Events Only)	intenance) Maintainabi	Mean Time Between Corrective Maintenance MTBCM:
MCMM _f : .65 MCMM _{cm} : 21.7 Variance: 0.045 Variance: 1457 Indicated Distribution (s): Exponential Normal Log Normal	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Corrective Maintenance — (Forced Shu Failure Events Only) MTTR _f : 43	intenance) Maintainabi	Mean Time Between Corrective Maintenance MTBCM:
Variance: 0.045 Variance: 1457 Indicated Distribution (s): Exponential Normal Log Normal	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Corrective Maintenance — (Forced Shu Failure Events Only) MTTR _f : 43 MCMM _f : .65	intenance) Maintainabi	MTBCM: 16199 90% Confidence Interval Upper Limit: 37198 Lower Limit: 8208 dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 3.3
Indicated Distribution (s): Exponential Normal Log Normal	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Corrective Maintenance — (Forced ShuFailure Events Only) MTTR _f : 43 MCMM _f : 65 Max. Observed MH: 0.8	intenance) Maintainabi	MTBCM: 16199 90% Confidence Interval Upper Limit: 37198 Lower Limit: 8208 dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 3.3 Max. Observed MH: 97
	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Corrective Maintenance — (Forced Shu Failure Events Only) MTTR _f : 43 MCMM _f :65 Max. Observed MH: 0.8	intenance) Maintainabi	Mean Time Between Corrective Maintenance MTBCM: 16199 90% Confidence Interval Upper Limit: 37198 Lower Limit: 8208 dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 3.3 Max. Observed MH: 97 MCMM _{cm} : 21.7
	(Forced Shutdown Corrective Ma MTBCM _f : 48599 90% Confidence Interval Upper Limit: 273530 Lower Limit: 15439 Corrective Maintenance — (Forced Shu Failure Events Only) MTTR _f : 43 MCMM _f : 65 Max. Observed MH: 0.8 MCMM _f : 65 Variance: 0.045	intenance) Maintainabi	MTBCM: 16199 90% Confidence Interval Upper Limit: 37198 Lower Limit: 8208 dility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.4 MCMM _{cm} : 3.3 Max. Observed MH: 97 MCMM _{cm} : 21.7 Variance: 1457

RELIABILITY AND MAINTAINABILITY DATA BANK

General Description: Air Conditioner	
CID/APL Number(s): 330190030	
Equipment Identification Code: AAO4	
Technical Manual: 0938-015-4010	
Manufacturer: 06534 Therm-Air	
	Basic Data
Ship Population: DD-884	Equip. Population/Ship: 2 size 7.5
	Data Assessment Period: 7/1/67 - 6/30/69
	5. C=0.60
Total Equip. Operating Time (hours): 26	558.
	Corrective Maintenance Events (CM):30
Total CM _f Repair Man-Hours: 65	Total CM Repair Man-Hours: 122
Maintenance Factors: 0.67	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1562 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1562 90% Confidence Interval Upper Limit: 2452	Mean Time Between Corrective Maintenance MTBCM: 885 90% Confidence Interval Upper Limit: 1230
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1562 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 885 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1562 90% Confidence Interval Upper Limit: 2452 Lower Limit: 1041	Mean Time Between Corrective Maintenance MTBCM:885 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1562 90% Confidence Interval Upper Limit: 2452 Lower Limit: 1041 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:885
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1562 90% Confidence Interval Upper Limit: 2452 Lower Limit: 1041 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.5	Mean Time Between Corrective Maintenance MTBCM:885
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1562 90% Confidence Interval Upper Limit: 2452 Lower Limit: 1041 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.5 MCMM _f : 3.0	Mean Time Between Corrective Maintenance MTBCM:85
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:885
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1562 90% Confidence Interval Upper Limit: 2452 Lower Limit: 1041 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.5 MCMM _f : 3.0	Mean Time Between Corrective Maintenance MTBCM:85
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:885

Noun Name: _Air Conditioning P	Plant - Self Contained
General Description: Air Conditi	ioner size 5 & 7.5
CID/APL Number(s): 330190030 *	*(1) Federal Stock Number: None
Equipment Identification Code:	AAO4
Technical Manual: 0938-015-4010, 0	0959-031-2010
Manufacturer:	
	Basic Data
	l size 5
	Equip. Population/Ship: 1 size 7.5
	2 Data Assessment Period: 7/1/67 - 6/30/69
	B=0.65, C=0.35
Total Equip. Operating Time (hours):	22096
Total Number of: Failures (CM _f):	4 Corrective Maintenance Events (CM): 4
Total CMc Repair Man-Hours: 80	Total CM Repair Man-Hours: 80
90% Confidence Interval Upper Limit: 16172 Lower Limit: 2414	90% Confidence Interval
	Maintainability Indices
Corrective Maintenance - (Forced Shutdow	vn Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :13.3	MTTR _{cm} :13.3
MCMM _f :7.0	MCMM _{cm} :7.0
Max. Observed MH: 60	Max. Observed MH:60
MCMM _f :20.0	MCMM _{cm} :20.0
Variance: 711	Variance: 711
Indicated Distribution(s): Exponential	Normal Log Normal
REMARKS:_(1) 330190016	
** Data reported by EIC on	ly, not identifiable by specific equipment
design.	

Noun Name: Air Conditioning Plant -	
General Description: Air Conditioner s	size 7.5
CID/APL Number(s): 330190030	Federal Stock Number: None
Technical Manual: 0938-015-4010	
Manufacturer: 06534 Therm-Air	
Ba	sic Data
Ship Population: LST 1126	Equip. Population/Ship: 2 size 7.5
Equip. Population in Data Base:2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LST/S: A=0.90, B=0.75	
Total Equip. Operating Time (hours):1970	5
Total Number of: Failures (CM _f): 2	_ Corrective Maintenance Events (CM):2
Total CMe Repair Man-Hours:73	Total CM Repair Man-Hours:73
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9852 90% Confidence Interval Upper Limit: 55452	Mean Time Between Corrective Maintenance MTBCM: 9852 90% Confidence Interval Upper Limit: 55452
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130	Mean Time Between Corrective Maintenance MTBCM: 9852 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :985290% Confidence Interval Upper Limit:55452Lower Limit:3130 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 9852 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130 ability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$: 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: 24.3 MCMM $_{\rm f}$: 36.5	Mean Time Between Corrective Maintenance MTBCM: 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 24.3 MCMM _{cm} : 36.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 24.3 MCMM _f : 36.5 Max. Observed MH: 72	Mean Time Between Corrective Maintenance MTBCM: 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 24.3 MCMM _{cm} : 36.5 Max. Observed MH: 72
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$: 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: 24.3 MCMM $_{\rm f}$: 36.5	Mean Time Between Corrective Maintenance MTBCM: 9852 90% Confidence Interval Upper Limit: 55452 Lower Limit: 3130 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 24.3 MCMM _{cm} : 36.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :985290% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 9852 90% Confidence Interval

Noun Name: Air Conditioni	ng Plant -	- Self Contained
General Description: Air Cone		
CID/APL Number(s): 3301900	39 *(1)	Federal Stock Number: None
Equipment Identification Code:	AAQ4	
Technical Manual: _0959-026-20	10. 359-09	044
Manufacturer: 06534 Therm-A1:	c	
	Bar	sic Data
Ship Population: AE-22		Equip. Population/Ship: 4 size 3's
Equip. Population in Data Base:	4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AE/S: A=0.90	B=0.75	C=0.60
Total Equip. Operating Time (hours):		
Fotal Number of: Failures (CM _f): _	1	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 19	.8	Total CM Repair Man-Hours:19.8
Maintenance Factors:	-	
MTBCM _f : 56737 90% Confidence Interval Upper Limit: 1105984		90% Confidence Interval Upper Limit:105984
Lower Limit: 11960		Lower Limit: 11960
	Maintains	ability Indices
Corrective Maintenance - (Forced Shu	tdown	Corrective Maintenance — (All Events)
Failure Events Only)	,	
MTTR _f : 13.2		MTTR _{cm} : 13.2
		MCMM . O
		MCMM _{cm} :
Max. Observed MH:	100	Max. Observed MH:
Max. Observed MH: 0	AND THE PARTY OF T	Max. Observed MH:O MCMM _{cm} :19.8
Max. Observed MH:	AND THE STATE OF T	Max. Observed MH:
MCMM _f : 19.8	ial	Max. Observed MH:O
Max. Observed MH:O MCMM _f :O Variance:O Indicated Distribution(s): Exponent	ial	Max. Observed MH:O MCMM _{cm} :O Variance:O
Max. Observed MH:O MCMM _f :19.8 Variance:O Indicated Distribution(s): Exponent *REMARKS: *(1) 330190008		Max. Observed MH:O MCMM _{cm} :O Variance:O

l Stock Number: None
A 14 September 18 September 19
quip. Population/Ship: 2 size 3's
ata Assessment Period: 7/1/67 - 6/30/6
.70
The second second second second second
tive Maintenance Events (CM):3
CM Repair Man-Hours: 257
es ** Cime Between Corrective Maintenance
es **
es **
es ** Cime Between Corrective Maintenance
es **
Cime Between Corrective Maintenance M: 1943 O Confidence Interval
Cime Between Corrective Maintenance M: 1943 O Confidence Interval
Cime Between Corrective Maintenance M: 1943 Confidence Interval Upper Limit: 3285
Cime Between Corrective Maintenance M: 1943 Confidence Interval Upper Limit: 3285
Cime Between Corrective Maintenance M: 1943 O'Confidence Interval Upper Limit: 3285 Lower Limit: 1222
Cime Between Corrective Maintenance M:
Cime Between Corrective Maintenance M:
Cime Between Corrective Maintenance M:
Cime Between Corrective Maintenance M: 1943 O'Confidence Interval Upper Limit: 3285 Lower Limit: 1222
Cime Between Corrective Maintenance M:
Cime Between Corrective Maintenance M:
Cime Between Corrective Maintenance M:
0

Noun Name: Air Conditioning	Plant -S	elf Contained
		ze 3
		Federal Stock Number: None
Equipment Identification Code:	AAO4	And the second of the second o
Technical Manual: 0959-026-2010		COSTOR MARKET AND
Manufacturer: 06534 Therm-Air		SEA AGREEMENT AND THE AGREEMENT OF
	Basic	: Data
		Equip. Population/Ship: 1 size 3
Equip. Population in Data Base:	1	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AFS/S: A=0.75.	B=0.70.	_C=0.70
Total Equip. Operating Time (hours):	12630	
Total Number of: Failures (CM _f):	1	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 0.5		Total CM Repair Man-Hours:0.5
Maintenance Factors:	0.67	
Mean Time Between Failure (Forced Shutdown Corrective Mainter		Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Mainter	nance)	
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval	nance)	Mean Time Between Corrective Maintenance MTBCM: 12630 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199	nance)	Mean Time Between Corrective Maintenance MTBCM: 12630 90% Confidence Interval Upper Limit: 246199
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval	nance)	Mean Time Between Corrective Maintenance MTBCM: 12630 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199	nance)	Mean Time Between Corrective Maintenance MTBCM: 12630 90% Confidence Interval Upper Limit: 246199
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662	nance) - - Maintainab	MTBCM: 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 Corrective Maintenance — (Forced Shutdown	nance) - - Maintainab	MTBCM: 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 Corrective Maintenance — (Forced Shutdown Failure Events Only)	nance) - - Maintainab	Mean Time Between Corrective Maintenance MTBCM: 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 illity Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 Corrective Maintenance — (Forced Shutdown Failure Events Only)	nance) - - Maintainab	MTBCM: 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 illity Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.33 MCMM _f : 0	nance) - - Maintainab	Mean Time Between Corrective Maintenance MTBCM: 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 ility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.33 MCMM _{cm} : 0
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval	nance) - - Maintainab	Mean Time Between Corrective Maintenance MTBCM: 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 illity Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.33 MCMM _{cm} : 0 Max. Observed MH: 0
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval	nance) - - Maintainab	Mean Time Between Corrective Maintenance MTBCM: 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 ility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.33 MCMM _{cm} : 0
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.33 MCMM _f : 0 Max. Observed MH: 0 MCMM _f : 0.5	nance) Maintainab	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f : 12630 90% Confidence Interval Upper Limit: 246199 Lower Limit: 2662 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.33 MCMM _f : 0 Max. Observed MH: 0 MCMM _f : 0.5 Variance: 0	nance) Maintainab	MCMM _{cm} :

	Self Contained
	ze 3 & 7.5
	Federal Stock Number: None
Equipment Identification Code: AAO4	
	015-4010
Manufacturer: 06534 Therm-Air	
	sic Data
A DVD O.L.	1 size 7.5 Equip. Population/Ship: 3 siz3 3's
Ship Population: ATF-84	Equip. Population/Ship: 3 siz3 3's
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/69
	0.75, C = 0.60
Total Equip. Operating Time (hours):50	
Total Number of: Failures (CM _f):	_ Corrective Maintenance Events (CM):3
Total CM _f Repair Man-Hours: 13	_ Total CM Repair Man-Hours:17.6
Maintenance Factors:0.67	
MTBCM _f : 50813 90% Confidence Interval Upper Limit: 990507 Lower Limit: 10711	MTBCM: 16937. 90% Confidence Interval Upper Limit: 62141 Lower Limit: 6553
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	2.0
MTTR _f : 8.7	MTTR _{cm} : 3.9
MCMM _f :	MCMM _{cm} : 4.0
Max. Observed MH:	
MCMM _f : 13.0	Wariance: 41
Variance: O	Variance: 41
Indicated Distribution (s): Exponential	Normal Log Normal
*REMARKS: *(1) 330190030;	13-1404-13
** Data reported by EIC only, not equipment design.	identifiable by specific
edarbinento deprent	

General Description: Air Conditioner	
CID/APL Number(s): 330190039 *(1)	Federal Stock Number: None
Equipment Identification Code: AAO4	Sink _ pake 3 mediand i many demonstrated
Technical Manual: 0959-026-2010, 35	9-0944
Manufacturer: 06534 Therm-Air	TO A PROBLEM AND A SAME AND A SAM
	Basic Data
	Equip. Population/Ship: 4 size 3's
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: CVA/S: A = 0.90, B	= 0.75, C = 0.60
Total Equip. Operating Time (hours):	53648
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:1.5
Maintenance Factors:0.67	Sept. Co. No. of the control of the
(Forced Shutdown Corrective Maintenance)	
(Forced Shutdown Corrective Maintenance)	(Ferrod Statelown Cornective Manuagement)
(Forced Shutdown Corrective Maintenance)	MTBCM: 53648 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval	MTBCM: 53648 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397**	MTBCM:53648
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit:	MTBCM: 53648 90% Confidence Interval Upper Limit: 1045770
MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 53648 90% Confidence Interval Upper Limit: 1045770
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM:53648 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 53648 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit: Maint Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 53648 90% Confidence Interval Upper Limit: 1045770 Lower Limit: 11309 tainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit: Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	MTBCM: 53648 90% Confidence Interval Upper Limit: 1045770 Lower Limit: 11309 tainability Indices Corrective Maintenance — (All Eventa) MTTR _{cm} : 1.0 MCMM _{cm} : 0 Max. Observed MH: 0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH:	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 53648 90% Confidence Interval Upper Limit: 1045770 Lower Limit: 11309 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 1.0 MCMM _{cm} : 0 Max. Observed MH: 0 MCMM _{cm} : 1.5 Variance: 0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	### MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 77397** 90% Confidence Interval Upper Limit: Lower Limit: Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f : Max. Observed MH: Variance: Indicated Distribution (s): Exponential *REMARKS: *(1) 330190008; **The maxetally contains the sum of	MTBCM:

Noun Name: _Air Conditioning Plant -	Self Contained
General Description: Air Conditioner - s	
	Federal Stock Number: None
Equipment Identification Code:AAO4	
0050 006 0000	
Manufacturer: 06534 Therm-Air	
	sic Data 2 size 5's Equip. Population/Ship: 2 size 3's
Four Population in Data Reserv	Data Assessment Period: 7/1/67 - 6/30/69
	.75, $C = 0.60$
Total Equip. Operating Time (hours): 5495	
Total Number of: Failures (CM.): 17	Corrective Maintenance Events (CM): 45
	_ Total CM Repair Man-Hours:411
Maintenance Factors: 0.67	
90% Confidence Interval Upper Limit: 5074 Lower Limit: 2155	MTBCM: 1221 90% Confidence Interval Upper Limit: 1590 Lower Limit: 953
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 2.0	$MTTR_{cm}$: 6.5
MCMM _f : 2.5	MCMM _{cm} : 3.0
Max. Observed MH: 8.6	Max. Observed MH: 150
$\begin{array}{c} \mathbf{MCMM_f} : \underline{\qquad 3.0} \\ \mathbf{Variance} : \underline{\qquad 7.0} \\ \end{array}$	Wariance: 603
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 330190040; ** Data reported by EIC only, not	identifiable by specific equipment
design.	of specific edutification

eneral Description: Air Conditioner -		
PID/APL Number(s): 330190039 Equipment Identification Code: AAO4	Federal Stock Number: None	39-019
	<u>n de la companya del companya de la companya del companya de la c</u>	-piguigh
Technical Manual: 0959-026-2010		islab#
Manufacturer: 06534 Therm-Air		technolik.
man I	Basic Data	
Ship Population: DLG-11	Equip. Population/Ship: 2 size	3's
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67	- 6/30/69
Utilization Factors: DLG/S: A = 0.90, B =	= 0.75, C = 0.60	ifa (2)
Total Equip. Operating Time (hours):		eg van
Total Number of: Failures (CM _f): 3	Corrective Maintenance Events (CM):	5
Total CM _f Repair Man-Hours: 16	Total CM Repair Man-Hours:	36
Maintenance Factors: 0.67		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintena MTBCM:5351	nce
Mean Time Between Failure	Mean Time Between Corrective Maintenand MTBCM:5351 90% Confidence Interval	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8919 90% Confidence Interval	Mean Time Between Corrective Maintena MTBCM:5351	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8919 90% Confidence Interval Upper Limit: 32725 Lower Limit: 3451	Mean Time Between Corrective Maintenand MTBCM:5351 90% Confidence Interval Upper Limit:13582	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8919 90% Confidence Interval Upper Limit: 32725 Lower Limit: 3451 Mainta	Mean Time Between Corrective Maintenand MTBCM:5351 90% Confidence Interval Upper Limit:13582 Lower Limit:2545	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8919 90% Confidence Interval Upper Limit: 32725 Lower Limit: 3451 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:5351 90% Confidence Interval	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8919 90% Confidence Interval Upper Limit: 32725 Lower Limit: 3451 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.6	Mean Time Between Corrective Maintenand MTBCM:5351 90% Confidence Interval	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8919 90% Confidence Interval Upper Limit: 32725 Lower Limit: 3451 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.6 MCMM _f : 7.5 Max. Observed MH: 8	Mean Time Between Corrective Maintenan MTBCM:5351 90% Confidence Interval	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8919 90% Confidence Interval Upper Limit: 32725 Lower Limit: 3451 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.6 MCMM _f : 7.5 Max. Observed MH: 8	Mean Time Between Corrective Maintenance MTBCM:5351 90% Confidence Interval	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 8919 90% Confidence Interval Upper Limit: 32725 Lower Limit: 3451 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.6 MCMM _f : 7.5 Max. Observed MH: 8	Mean Time Between Corrective Maintenance MTBCM:5351 90% Confidence Interval	nce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :891990% Confidence Interval	MCMM _{cm} :	ormal

General Description: Air Conditioner s		
CID/APL Number(s): 330190039		
Equipment Identification Code: AAO4		
echinical Manual.		
Manufacturer: 06534 Therm-Air		100
Ela Caracian de Ca	Basic Data	
Ship Population: DLG 30	Equip. Population/Ship: 3 size	3's
Equip. Population in Data Base: 3	Data Assessment Period: 7/1/67 -	6/30/6
Utilization Factors: DLG/S: A = 0.90, B =	= 0.75, $C = 0.60$	
Total Equip. Operating Time (hours):	.0803	
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM):	5
Total CM _f Repair Man-Hours:7.5	Total CM Repair Man-Hours:	13
Maintenance Factors:0.67	The second second	
Mean Time Between Failure	ability Indices Mean Time Between Corrective Maintenan	ce
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20401 90% Confidence Interval	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20401 90% Confidence Interval Upper Limit: 114825	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval Upper Limit: 20711	90 608894 08
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20401 90% Confidence Interval	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	90 608894 08
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20401 90% Confidence Interval Upper Limit: 114825 Lower Limit: 6481	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval Upper Limit: 20711 Lower Limit: 3881	90 6088194 08
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20401 90% Confidence Interval Upper Limit: 114825 Lower Limit: 6481	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	9) COR 194 DR
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20401 90% Confidence Interval Upper Limit: 114825 Lower Limit: 6481 Maint Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	9) COR 194 DR
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 20401 90% Confidence Interval Upper Limit: 114825 Lower Limit: 6481 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	9) COR 194 DR
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	S) CORTINA DR SUMBACH MANY MANY MANY MANY MANY MANY MANY MANY
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	S) CORTAL DE COR
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	S) CORTINA DR SUMBACH MANY MANY MANY MANY MANY MANY MANY MANY
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	S) CORTAL DE COR
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenan MTBCM: 8160 90% Confidence Interval	SOME THE COMMENT OF T

Noun Name: Air Conditioning Plant -	Self Containing	D. Same made
General Description: Air Conditioner - s		
CID/APL Number(s): 330190039 *(1)	Federal Stock Number:	None
Equipment Identification Code: AAO4		reads members
Technical Manual: 0959-026-2010, 0938	-015-4010	Control (+ Basha)
Manufacturer: 06534 Therm-Air		Non-Administra
and B	asic Data	7 size 7.5 1 size 5
Ship Population: LPH 2	Four Population (Ship.	2 size 3
Ship Population: LPH 2 Equip. Population in Data Base: 10	Data Assessment Period:	7/1/67 - 6/30/69
Utilization Factors: LPH/S: A = 1.00, B	= 0.50, C = 0.50	1/1/01 - 0/30/09
Total Equip. Operating Time (hours): 1350		
Total Number of: Failures (CM _f): 2		
Total CM _f Repair Man-Hours: 10 Maintenance Factors: 0.67	Total CM Repair Man-Hours:	10)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 67537 90% Confidence Interval	MTBCM: 7945 90% Confidence Interval	
Upper Limit:	Upper Limit:12	2470
Lower Limit: 21455	Lower Limit:	5297
Maintai	nability Indices	
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All	Events)
MTTRe: 3.3	MTTR _{cm} : 4.1	
MCMM _f :	MCMM _{cm} : 3.0	
Max. Observed MH:7	Max. Observed MH:	30
MCMM _f :	MCMM _{cm} : 6.2	
Variance: 8.0	Variance: 65	
Indicated Distribution (s): Exponential	Normal	Log Normal
REMARKS:(1) 330190040, 330190030);	23/1/1006
** Data reported by EIC only, not		Cic equipment
design		

Noun Name: Air Conditioning Plant -	Self Contained
General Description: Air Conditioner si	
CID/APL Number(s): 330190039 *(1)	Federal Stock Number:None
Equipment Identification Code: AAO4	ulie in annual and in annual and
Technical Manual: 0959-026-2010, 0959-0	31-2010
Manufacturer: 06534 Therm-Air	
and Be	sic Data
Ship Population: LSD 32	5 size 5's Equip. Population/Ship: 4 size 3's
Equip Population in Data Rase: 9	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LSD/S: A = 0.90. B =	0.65. C = 0.35
Total Equip. Operating Time (hours): 901	
	Corrective Maintenance Events (CM):2
Total CM. Repair Man-Hours: 9	Total CM Repair Man-Hours:437
Maintenance Factors: 0.67	_ 10th 0th 10th than 110th
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90121 90% Confidence Interval Upper Limit: 1756745 Lower Limit: 18997	MTBCM: 45060 90% Confidence Interval Upper Limit: 253612 Lower Limit: 14314
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.0 MCMM _f :0 Max. Observed MH:0 MCMM _f :9.0	Corrective Maintenance — (All Events) MTTR _{cm} : 145.6 MCMM _{cm} : 218.5 Max. Observed MH: 428 MCMM _{cm} : 218.5 Variance: 87738
Variance:	Normal Log Normal
*REMARKS. *(1) 330190040, 33019001 ** Data reported by EIC only, not design.	6; identifiable by specific equipment

Noun Name: Air Conditioning Plant -	
General Description: Air Conditioner - si	
	Federal Stock Number:None
Equipment Identification Code: AAO4	15 18 april 10 april 2
Technical Manual:0959-026-2010	DAYEL TO THE PERSON OF THE PER
Manufacturer: 06534 Therm-Air	THE RESERVE OF THE PARTY OF THE
sisti Bar	sic Data
Ship Population: LST 1141	Equip. Population/Ship: 15 size 3's
Equip. Population in Data Base: 15	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LST/S: A = 0.90, B =	0.75, C = 0.60
Total Equip. Operating Time (hours):1476	30
	_ Corrective Maintenance Events (CM):
Total CMc Repair Man-Hours:	Total CM Repair Man-Hours:8
Maintenance Factors: 0.67	Process was a survey of the su
MTBCM _f : 212984** 90% Confidence Interval Upper Limit:	
Lower Limit:	Lower Limit: 31120
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	Corrective Maintenance — (All Events) MTTR _{cm} :
Max. Observed MH:	Max. Observed MH:
MCMM _f :	MCMM _{cm} :8.0
Variance:	Variance: 0
variance:	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal
Indicated Distribution(s): Exponential	

Noun Name: Air Conditioning Plant	- Self Contained
General Description: Air Conditioner	sizes 3, 5, 7.5
CID/APL Number(s): 330190039 *(1)	Federal Stock Number:
Equipment Identification Code:AAO4	
Technical Manual: 0959-020-2010, 359-0	0901
Manufacturer: 06534 Therm-Air, 6693	35 York
Kini J	Basic Data
Ship Population: LST 1157	l size 7.5, Equip. Population/Ship: l size 5, l size
Equip. Population in Data Base:3	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LST/S: A = 0.90, B	= 0.75, C = 0.60
Total Equip. Operating Time (hours): 313	25
	Corrective Maintenance Events (CM):69
Total CM _f Repair Man-Hours: 42	Total CM Repair Man-Hours:638
Maintenance Factors:0.67	, and the part radii from the part of the
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1842 90% Confidence Interval Upper Limit: 2892 Lower Limit: 1228	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1842 90% Confidence Interval Upper Limit: 2892 Lower Limit: 1228 Maintai	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372 inability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1842 90% Confidence Interval Upper Limit: 2892 Lower Limit: 1228 Maintai Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1842 90% Confidence Interval Upper Limit: 2892 Lower Limit: 1228 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :1842 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1842 90% Confidence Interval Upper Limit: 2892 Lower Limit: 1228 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.7 MCMM _f : 1.0	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2 MCMM _{cm} : 2.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :1842 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2 MCMM _{cm} : 2.5 Max. Observed MH: 101
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1842 90% Confidence Interval Upper Limit: 2892 Lower Limit: 1228 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.7 MCMM _f : 1.0	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2 MCMM _{cm} : 2.5 Max. Observed MH: 101 MCMM _{cm} : 9.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :1842 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2 MCMM _{cm} : 2.5 Max. Observed MH: 101
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 453 90% Confidence Interval Upper Limit: 560 Lower Limit: 372 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2 MCMM _{cm} : 2.5 Max. Observed MH: 101 MCMM _{cm} : 9.2 Variance: 336 Normal Log Normal X

Noun Name: Air Conditioning Plant -	Self Contained
General Description: Air Conditioner -	sizes 3 & 5
CID/APL Number(s): 330190039, 330190040	Federal Stock Number: None
Equipment Identification Code: AAO4	
Technical Manual: 0959-026-2010	
Manufacturer: 06534 Therm-Air	
Ва	sic Data
Ship Population: MSO 508	Equip. Population/Ship: 2 sizes 3's
Fauin Population in Data Rase:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: MSO/S: A = 0.90, B =	0.75, C = 0.60
Total Found Operating Time (hours): 36	131
Total Number of: Failures (CMs):	Corrective Maintenance Events (CM):
	Total CM Repair Man-Hours:7
Maintenance Factors: 0.67	Total CM Repair Man-riours.
MTBCM _f : 52126** 90% Confidence Interval	MTBCM: 36131 90% Confidence Interval
	Upper Limit: 704308
Upper Limit:	Lower Limit: 7616
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	990 and 2000
MTTR _f :	$MTTR_{cm}$: $\frac{4 \cdot 7}{}$
MCMM _f :	MCMM _{cm} :
Max. Observed MH:	Max. Observed MH:
MCMM _f :	MCMM _{em} :
Variance:	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal
	ed operating time for an equipment
	***Data reported by ETC only, not
identifiable by enecific equir	oment design.

General Description: Air Conditioner - s	ize 5	
CID/APL Number(s): 330190040, 33019001		10 1 5 5 5
Equipment Identification Code: AAO4		
Technical Manual: None		
Manufacturer: 06534 Therm-Air		1000
E	Basic Data	
Ship Population: DD 878		
Equip. Population in Data Base:5		
Utilization Factors: DD/S: A = 0.90, B =		
Total Equip. Operating Time (hours): 62683		
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM):	4
Total CM _f Repair Man-Hours: 54	Total CM Repair Man-Hours:	132
Maintenance Factors:	.67	
Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Mainten	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 31341	Mean Time Between Corrective Mainten MTBCM: 15670.	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 31341 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 15670. 90% Confidence Interval	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 31341 90% Confidence Interval Upper Limit: 176398	Mean Time Between Corrective Mainten MTBCM:15670. 90% Confidence Interval Upper Limit:45878	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 31341 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 15670. 90% Confidence Interval	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 31341 90% Confidence Interval Upper Limit: 176398 Lower Limit: 9956	Mean Time Between Corrective Mainten MTBCM:15670. 90% Confidence Interval Upper Limit:45878	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 31341 90% Confidence Interval Upper Limit: 176398 Lower Limit: 9956	Mean Time Between Corrective Mainten MTBCM: 90% Confidence Interval Upper Limit:45878 Lower Limit:6848	1008) 1009 204 1009
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 31341 90% Confidence Interval Upper Limit: 176398 Lower Limit: 9956 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Mainten MTBCM: 90% Confidence Interval	ees) - _p MOHTH4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 31341 90% Confidence Interval Upper Limit: 176398 Lower Limit: 9956 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 15.9	Mean Time Between Corrective Mainten MTBCM: 15670 90% Confidence Interval	ees) - _p MOHTH4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :31341	Mean Time Between Corrective Mainten MTBCM:	ees) - _p MOHTH4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 31341 90% Confidence Interval Upper Limit: 176398 Lower Limit: 9956 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 15.9 MCMMf: 23.8 Max. Observed MH: 29	Mean Time Between Corrective Mainten MTBCM:	ees) - _p MOHTH4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:31341 90% Confidence Interval Upper Limit:176398 Lower Limit:9956 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf:15.9 MCMMf:23.8 Max. Observed MH:29 MCMMf:23.8	Mean Time Between Corrective Mainten MTBCM:	2663) 266367294 2758
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :31341	Mean Time Between Corrective Mainten MTBCM:	2663) 266367294 2758
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:31341 90% Confidence Interval Upper Limit:176398 Lower Limit:9956 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf:15.9 MCMMf:23.8 Max. Observed MH:29	Mean Time Between Corrective Mainten MTBCM:	1008) 1009 204 1009

General Description: Air Conditioner si	ze 5
	Federal Stock Number: None
	6.138
Manufacturer:	CONTRACTOR STATE AND ASSESSMENT OF
	(
ALCO B	Basic Data
Ship Population: DDG 13	Equip. Population/Ship: 1 size 5
Equip. Population in Data Base:1	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DDG/S: A = 0.90, B	= 0.75, C = 0.60
Total Equip. Operating Time (hours):	12853
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM): 2
Total CMc Repair Man-Hours: 93	Total CM Repair Man-Hours:93
Maintenance Factors: 0.67	•
Mean Time Between Failure	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval Upper Limit: 36170	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval Upper Limit: 36170
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval Upper Limit: 36170
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Mainta	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Mainta	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _e : 31.0	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Linability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _e : 31.0	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 31.0 MCMM _{cm} : 46.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 31.0 MCMM _f : 46.5 Max. Observed MH: 87	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Lower Limit: 46.5 Max. Observed MH: 87
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :6426 90% Confidence Interval Upper Limit:36170 Lower Limit:2042 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :31.0 MCMM _f :46.5 Max. Observed MH:87	Mean Time Between Corrective Maintenance MTBCM:6426
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 31.0 MCMM _f : 46.5 Max. Observed MH: 87	Mean Time Between Corrective Maintenance MTBCM: 6426 90% Confidence Interval Upper Limit: 36170 Lower Limit: 2042 Lower Limit: 46.5 Max. Observed MH: 87
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :6426 90% Confidence Interval Upper Limit:36170 Lower Limit:2042 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :31.0 MCMM _f :46.5 Max. Observed MH:87	Mean Time Between Corrective Maintenance MTBCM:6426

Congral Description. Air Conditionar	sizes 5
	Federal Stock Number:None
	The state of the s
	er and a state of the state of
Manufacturer.	
	David Date
	Basic Data
Ship Population: DLG 20	Equip. Population/Ship: 2 size 5's
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG/S: A = 0.90, B =	= 0.75, C = 0.60
Total Equip. Operating Time (hours):26	391
	Corrective Maintenance Events (CM):2
Total CM _e Repair Man-Hours:37	Total CM Repair Man-Hours:37
Maintenance Factors: 0.67	
Delie	shility Indiana
Relia	ability Indices
Relia	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure	Mean Time Between Corrective Maintenance MTBCM: 13195
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13195 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13195 90% Confidence Interval Upper Limit:74268	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13195 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13195 90% Confidence Interval Upper Limit:74268	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13195	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268 Lower Limit: 4192 Linability Indices Corrective Maintenance — (All Events) MTTRcm: 12.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13195 90% Confidence Interval Upper Limit:74268 Lower Limit:4192 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :12.3 MCMM _f :18.5	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268 Lower Limit: 4192 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.3 MCMM _{cm} : 18.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268 Lower Limit: 4192 Minability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.3 MCMM _{cm} : 18.5 Max. Observed MH: 33
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13195	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268 Lower Limit: 4192 Lower Limit: 4192 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.3 MCMM _{cm} : 18.5 Max. Observed MH: 33 MCMM _{cm} : 18.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268 Lower Limit: 4192 Minability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.3 MCMM _{cm} : 18.5 Max. Observed MH: 33
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :13195	Mean Time Between Corrective Maintenance MTBCM: 13195 90% Confidence Interval Upper Limit: 74268 Lower Limit: 4192 Lower Limit: 4192 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.3 MCMM _{cm} : 18.5 Max. Observed MH: 33 MCMM _{cm} : 18.5

Self Contained	
Federal Stock Number:	None
ic Data	
D 1 D 141 (01)	4 size 7.5
Equip. Population/Ship:	2/1/67 6/20/60
Data Assessment Period:	7/1/67 - 6/30/69
0.0), 0 = 0.4)	
Corrective Maintenance Event	• (CM)· 13
Total CM Repair Man-Hours:	101
	TOTAL STREET,
90% Confidence Interval Upper Limit: 82	85
Corrective Maintenance — (Al	Events)
5.2	
MTTR _{cm} : 3.5	
	25
Variance: 65	
V 443441100 1	The second of th
Normal	Log Normal
	Federal Stock Number: Copata Equip. Population/Ship: Data Assessment Period: 0.65, C = 0.45 Corrective Maintenance Event Total CM Repair Man-Hours: ity Indices Mean Time Between Correctiv MTBCM: 4900 90% Confidence Interval Upper Limit: 82 Lower Limit: 30 bility Indices Corrective Maintenance — (All MTTR _{cm} : 3.5 Max. Observed MH: MCMM _{cm} : 7.8

	Self Contained
General Description: Air Conditioner si	
	Federal Stock Number: None
30 PM - PM - 1 PM -	
	1
Manutacturer:	
	Basic Data
	Sasic Data
Ship Population: LST 1163	Equip. Population/Ship: 1 size 5
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LST/S: A = 0.90, B	= 0.75, C = 0.60
Total Equip. Operating Time (hours):	10319
Total Number of: Failures (CM _f): 7	Corrective Maintenance Events (CM):
	Total CM Repair Man-Hours:468
Maintenance Factors: 0.67	Total CW Repair Mail-Hous.
Wallitellance Paccols.	
1 1 -1	
MTBCM _f : 1474 90% Confidence Interval Upper Limit: 3141 Lower Limit: 785	MTBCM:
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785	90% Confidence Interval Upper Limit: 342
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta	90% Confidence Interval Upper Limit: 342 Lower Limit: 198
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta Corrective Maintenance — (Forced Shutdown	90% Confidence Interval Upper Limit: 342 Lower Limit: 198 Limability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit: 342 Lower Limit: 198 Limability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR 29.7	90% Confidence Interval Upper Limit:342 Lower Limit:198 Linability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 29.7 MCMM _f : 14.0	90% Confidence Interval Upper Limit: 342 Lower Limit: 198 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.8 MCMM _{cm} : 2.8
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 29.7 MCMM _f : 14.0 Max. Observed MH: 149	90% Confidence Interval Upper Limit:342 Lower Limit:198 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : MCMM _{cm} :
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 29.7 MCMM _f : 14.0	90% Confidence Interval Upper Limit: 342 Lower Limit: 198 Lower Limit: 198 Minability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.8 MCMM _{cm} : 2.8
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 29.7 MCMM _f : 14.0 Max. Observed MH: 149 MCMM _f : 44.5	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 3141 Lower Limit: 785 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 29.7 MCMM _f : 14.0 Max. Observed MH: 149 MCMM _f : 44.5 Variance: 3663	90% Confidence Interval Upper Limit: 342 Lower Limit: 198 Lower Limit: 198 Minability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.8 MCMM _{cm} : 2.8 Max. Observed MH: 149 MCMM _{cm} : 11.7 Variance: 819

Noun Name: Capstan, Vertical	Elec Warning
General Description: Capstan Elec. 2 S	
CID/APL Number(s): 530180017	Federal Stock Number: None * (1)
Equipment Identification Code: KKO3	- CONTRACT TO THE PROPERTY OF
Technical Manual: None	Equipped (destroyment) (with a company
Manufacturer: 29899 Hyde Corp.	
	19400 at United
В	asic Data
Ship Population: DEG 4, 5	Equip. Population/Ship: 1 ea/DEG
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.01, B=0.0,	C=0.005
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f): 0	
Total CM _f Repair Man-Hours: 0	
Maintenance Factors: 0.67	
Manie Lactors.	were the second of the second
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Maintair	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : O	MTTR _{cm} : O
MCMM _f :	MCMM _{cm} : O
Max. Observed MH:	Max. Observed MH:O
MCMM _f :O	MCMM _{cm} : O
Indicated Distribution(s): Exponential	Normal Log Normal
	Dwg. 17-50; **The highest calculated
operating time for an equipment i	n this study is 61 hours.

Noun Name: Capstan, Vertical Elec	. Warping
General Description: Capstan Elec. 25 1	PD Max Pull 15,000 @ 50 FPM
General Description: Capstan Elec. 25 1 CID/APL Number(s): 530260001, 53026000	Federal Stock Number: None * (1)
Equipment Identification Code: KKO3	and the state of t
Technical Manual: 320-0386	Aller and the second sections
Manufacturer: 55102 Skagit Corp.	A STATE OF S
ESSIVATIVE ESTABLISHED TO THE PROPERTY OF THE	sic Data
Ship Population: 34, 35	Equip. Population/Ship: 3 ea/ LSD Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.04, B=0.0, C	Data Assessment Period: (/1/0) - 0/30/09
Total Equip. Operating Time (hours):	8310
Total Number of: Foilures (CM.):	Corrective Maintenance Events (CM): 44
Total CM _f Repair Man-Hours: 132 Maintenance Factors: 0.67	Corrective Manuellance Events (OM).
Total CM _f Repair Man-Hours:132	Total CM Repair Man-Hours: 423
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :755 90% Confidence Interval Upper Limit:1347	Mean Time Between Corrective Maintenance MTBCM:188 90% Confidence Interval
Lower Limit: 456	Lower Limit: 147
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
	MTTR _{cm} :
MCMM _f :	Max. Observed MH:76
MCMM _f : 12.0 Variance: 470	MCMM _{cm} : 9.6 Variance: 207
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: * (1) ID - Model RC-2	25-9, Type 2 DwgRC-3347-H

General Description.	1 SPD Max Pull 15,000 @ 50 FPM
CID/APL Number(s): 530260009	Federal Stock Number: None * (1)
Equipment Identification Code: KKO3	COMPANIENCE CONTRACTOR
Technical Manual: 320-0738	and the suppose of
Manufacturer: 55102 Skagit Con	rp.
	Basic Data
Ship Population: AFS 1, 2, 3	Equip. Population/Ship: 1 ea/ AFS
Equip. Population in Data Base: 3	Data Assessment Period: 7/1/67 - 6/30/6
	0. C=0.01
Total Equip. Operating Time (hours):	502
	Corrective Maintenance Events (CM):5
Total CMc Repair Man-Hours: 22	Total CM Repair Man-Hours: 48
Maintenance Factors: 0.67	Total On Repair Main-Hours.
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 167 90% Confidence Interval Upper Limit: 614	Mean Time Between Corrective Maintenance MTBCM: 100 90% Confidence Interval Upper Limit: 255
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:614 Lower Limit:65	Mean Time Between Corrective Maintenance MTBCM: 100 90% Confidence Interval Upper Limit: 255
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:614 Lower Limit:65	Mean Time Between Corrective Maintenance MTBCM: 100 90% Confidence Interval Upper Limit: 255 Lower Limit: 48
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:614 Lower Limit:65 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :4.9	Mean Time Between Corrective Maintenance MTBCM: 100 90% Confidence Interval Upper Limit: 255 Lower Limit: 48 ntainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 100 90% Confidence Interval Upper Limit: 255 Lower Limit: 48 ntainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.4 MCMM _{cm} : 10.0 Max. Observed MH: 16
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Capstan, Vertical, Elec.	
General Description: Capstan Elec 1 SPD	Max Pull 9,000 @ 100 FPM
CID/APL Number(s): 530470001 KK03	Federal Stock Number: None * (1)
Equipment Identification Code: KK03	
	13.50-134
Manufacturer: 82994 Link Belt Co.	CARSON CARROLL CONTROL
Basi	ic Data
) / ATT
Ship Population: ATF 103, 105, 107, 11	Equip. Population/Ship: 1 ea/ ATF
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.1, B=0.01,	C=0.0
Total Equip. Operating Time (hours): 338	3
Total Number of: Failures (CMf):	Corrective Maintenance Events (CM):3
Total CMe Repair Man-Hours:5	Total CM Repair Man-Hours:12
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM:127
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3383 90% Confidence Interval Upper Limit: 65945	MTBCM: 1127 90% Confidence Interval Upper Limit: 4137
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3383	MTBCM: 1127 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3383 90% Confidence Interval Upper Limit: 65945 Lower Limit: 713	MTBCM: 1127 90% Confidence Interval Upper Limit: 4137
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3383 90% Confidence Interval Upper Limit: 65945 Lower Limit: 713 Maintain	MTBCM: 1127 90% Confidence Interval Upper Limit: 4137 Lower-Limit: 436
(Forced Shutdown Corrective Maintenance) MTBCM _f :383 90% Confidence Interval	MTBCM: 1127 90% Confidence Interval Upper Limit: 4137 Lower Limit: 436 ability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3383 90% Confidence Interval	MTBCM: 1127 90% Confidence Interval Upper Limit: 4137 Lower Limit: 436 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.6
(Forced Shutdown Corrective Maintenance) MTBCM _f :383 90% Confidence Interval	MTBCM: 1127 90% Confidence Interval Upper Limit: 4137 Lower Limit: 436 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.6 MCMM _{cm} : 5.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :383	MTBCM: 1127 90% Confidence Interval Upper Limit: 4137 Lower Limit: 436 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.6 MCMM _{cm} : 5.0 Max. Observed MH: 6
(Forced Shutdown Corrective Maintenance) MTBCM _f :383 90% Confidence Interval	MTBCM: 1127 90% Confidence Interval Upper Limit: 4137 Lower Limit: 436 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.6 MCMM _{cm} : 5.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :383	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :383	MTBCM:

Noun Name:Capstan, Vertical, Ele	ec. Warping
General Description: Capstan, Elec 2 SF	PD Max Pull 10,000 @ 60 FPM
CID/APL Number(s): 530920002	Federal Stock Number: None * (1)
CID/APL Number(s): 530920002 Equipment Identification Code: KK03	refuel wormen's limited personal and
Technical Manual: 320-0441	SERVICE PROPERTY OF THE PROPER
	rp. Heavy Machinery Division
Ba	asic Data
Ship Population: DLG 8, 10, 11, 19, 22,	23 Equip. Population/Ship: 1 ea/DLG
Equip. Population in Data Base: 6	Equip. Population/Ship: 1 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.02, B=0.0, C	=0.01
Total Equip. Operating Time (hours):	.037
Total Number of: Failures (CM _f):1	Corrective Maintenance Events (CM):6
Total CM _f Repair Man-Hours:1 Maintenance Factors:0.67	Total CM Repair Man-Hours:15.0
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1037 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 172 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1037	Mean Time Between Corrective Maintenance MTBCM: 172 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1037 90% Confidence Interval Upper Limit: 20214 Lower Limit: 219	Mean Time Between Corrective Maintenance MTBCM: 172 90% Confidence Interval Upper Limit: 397
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1037 90% Confidence Interval Upper Limit: 20214 Lower Limit: 219	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1037 90% Confidence Interval Upper Limit: 20214 Lower Limit: 219 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 172 90% Confidence Interval Upper Limit: 397 Lower Limit: 88 nability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1037 90% Confidence Interval Upper Limit: 20214 Lower Limit: 219 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 0.7	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1037 90% Confidence Interval Upper Limit: 20214 Lower Limit: 219 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 0.7 MCMM _f : 0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 1037 90% Confidence Interval Upper Limit: 20214 Lower Limit: 219 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 0.7 MCMMf: 0 Max. Observed MH: 0 MCMMf: 1.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Capstan, Vertical El	ec. Warping	
General Description: Capstan, Elec. 2	SPD Max Pull 20,000 at 50 FPM	
CID/APL Number(s): 530920006	Federal Stock Number: None * (1)	
Equipment Identification Code: KK03	SOLUTION DE LA CONTRACTION DEL CONTRACTION DE LA CONTRACTION DEL CONTRACTION DE LA C	
Technical Manual: None		
	orp.; Heavy Machinery Division	
end I	Basic Data	
Ship Population: LPD 4, 5, 6	Equip. Population/Ship: 2 ea/ LPD	
Equip. Population in Data Base: 6	Equip. Population/Ship: 2 ea/ LPD Data Assessment Period: 7/1/67 - 6/30/69	
Utilization Factors: S: A=0.04, B=0.0,	C=0.02	
Total Equip. Operating Time (hours):	2152	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):O	
Total CM, Repair Man-Hours:	Total CM Repair Man-Hours:O	
Maintenance Factors:0.67		
(Forced Shutdown Corrective Maintenance) MTBCM _f : 3105** 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM:3105** 90% Confidence Interval Upper Limit: Lower Limit:	
Maintainability Indices		
Corrective Maintenance — (Forced Shutdown Failure Events Only)		
MTTR _f :O	MTTR _{cm} :O	
MCMM _f :O	MCMM _{cm} : Max. Observed MH:	
Max. Observed Mir.		
MCMM _f : 0	MCMM _{cm} : 0	
Variance:	variance:	
Indicated Distribution(s): Exponential	Normal Log Normal	
*REMARKS: * (1) ID-MDL-CE-30 B; est calculated operating time fo	Dwg. 101410 & E-101602-1; **The high- er an equipment in this study is 826	
hours.		

General Description: Capstan Elec SPD	
CID/APL Number(s): 530920011	Federal Stock Number: None * (1)
Equipment Identification Code: KK03	
Technical Manual:0920-004-3000	
Manufacturer: 16603 Western Gear Co	rp.; Heavy Machinery Division
	Paris Data
	Basic Data
Ship Population: DLG 29,30,31	Equip. Population/Ship: 1 ea/ DLG
	Equip. Population/Ship: 1 ea/ DLG Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.02, B=0.0,	C=0.01
Total Equip. Operating Time (hours):	534
Total Number of: Failures (CM _f):1	Corrective Maintenance Events (CM):2
Total CM _f Repair Man-Hours:3	Total CM Repair Man-Hours:10
Maintenance Factors:0.67	
	ability Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 53 ⁴ 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 267 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 534 90% Confidence Interval Upper Limit: 10409	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:1503
(Forced Shutdown Corrective Maintenance) MTBCM _f : 53 ⁴ 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 267 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 53 ⁴ 90% Confidence Interval Upper Limit: 10409 Lower Limit: 113	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:1503
(Forced Shutdown Corrective Maintenance) MTBCM _f : 53 ⁴ 90% Confidence Interval Upper Limit: 10409 Lower Limit: 113 Mainta	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 53 ⁴ 90% Confidence Interval Upper Limit: 10409 Lower Limit: 113	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$:	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Elevator, Cargo/Stores	None Manuel Land Park Control of the
General Description: Elevator PO CGO Car	
CID/APL Number(s): 590020032, 590020033	
Equipment Identification Code: KTO6 & KTO	
Technical Manual: 316-0189	
Manufacturer: 45206 Otis Elevator Co.	Manuferings Total Market Total Agency London
Bas	ic Data
Chin Bandaire AE 21. AE 22.	Equip. Population/Ship: 6 ea/AE
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.07, B =	
Total Equip. Operating Time (hours):	9595
	Corrective Maintenance Events (CM): 62
Total CM _f Repair Man-Hours: 309	Total CM Repair Man-Hours: 802
Maintenance Factors: 0.67	the state of the s
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 533	Mean Time Between Corrective Maintenance MTBCM:154
90% Confidence Interval	90% Confidence Interval
Upper Limit: 825	Upper Limit: 193
Lower Limit: 359	Lower Limit: 125
Maintaina	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :11.5	MTTR _{cm} : 8.6
MCMM _f : 5.5	MCMM _{cm} : 8.0
Max. Observed MH: 97	Max. Observed MH: 97
MCMM _f :17.2	MCMM _{em} : 12.9
Variance:	Variance: 305
Indicated Distribution(s): Exponential	Normal Log NormalX
*REMARKS: *(1) ID-HCH No. 2 STBD; D	wg-266860-426:
TENNING TO THE TOTAL THE TENTING TO	

Equipment Identification

Noun Name: Elevator, Cargo & Stores

General Description: Elevator PO CGO Cap	16000 lbs.
CID/APL Number(s): 590070049	Federal Stock Number: None *(1)
Equipment Identification Code: KT06 & KT07	
Technical Manual: None	
Manufacturer: 65177 Patterson Pump Div.	of Patterson Industries Inc.
Basic	c Data
Ship Population: AFS 1, 2;	Equip. Population/Ship: 1 ea/AFS
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.20, B = 0	.10, $C = 0.10$
Total Equip. Operating Time (hours):490	04
Total Number of: Failures (CM _f): 24	Corrective Maintenance Events (CM):57
Total CM - Repair Man-Hours: 544	Total CM Repair Man-Hours: 1011
Maintenance Factors:	67
90% Confidence Interval	90% Confidence Interval
Upper Limit: 296 Lower Limit: 145	Upper Limit: 109
Lower Limit: 145	Lower Limit:69
Maintainal	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 15.1	MTTR _{cm} :11.8
MCMM _f : 3.5	MCMM _{cm} : 4.0
Max. Observed MH: 215	Max. Observed MH:215
MCMM _f : 22.7	MCMM _{cm} : 17.7
Variance: _2986	Variance: 1811
Indicated Distribution(s): Exponential	Normal Log NormalX
*REMARKS: *(1) Dwg-65105;	
4	

Noun Name: Elevator, Cargo & Stores	
General Description: Elevator PO CGO Cap	16000 lbs.
CID/APL Number(s): 590340003	
Equipment Identification Code: KT06 & KT0	
Technical Manual: None	
Manufacturer: 63914 Turnbull Elevator	
	e Data
Ship Population: LPD 4, 5, 6;	Equip. Population/Ship: 1 ea/LPD
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.21, B = 0.	06, C = 0.04
Total Equip. Operating Time (hours):	5454
Total Number of: Failures (CM _f):3	Corrective Maintenance Events (CM):
Total CMe Repair Man-Hours:10	Total CM Repair Man-Hours:141
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f :1818 90% Confidence Interval	90% Confidence Interval Upper Limit: 543 Lower Limit: 224
Maintainal	pility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 2.2	MTTR _{cm} :
MCMM _f : 2.0	MCMM _{cm} :2.0
Max. Observed MH: 6	Max. Observed MH: 42.0
MCMM _f :3.3	MCMM _{cm} :8.8
Variance:5	Variance: 194
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) Dwg E-13330-C;	The state of the s

oun Name: Elevator, Cargo & Stor	O Cap 6000 lbs. STBd. & Port
	20002 Federal Stock Number: None *(1)
Equipment Identification Code: KT06 & I	KTO [
Pechnical Manual: None	P. G. A. D
Manufacturer: 13420 Colby Crane & Mi	fg. Co. A Div. of Lockheed Shipbuilding
	Basic Data
Ship Population: AO 105, 106, 109;	Equip. Population/Ship: 2 ea/AO
Equip Population in Data Base: 6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.05, B=0.02	2, C=0.05
Total Equip. Operating Time (hours):	8606
	Corrective Maintenance Events (CM): 27
	Total CM Repair Man-Hours: 785
Maintenance Factors: 0.67	Total CM Repair Man-Hours:
Maintenance Paccols.	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 782	Mean Time Between Corrective Maintenance) MTBCM: 318
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 782 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 318 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 782 90% Confidence Interval Upper Limit: 1395	Mean Time Between Corrective Maintenance MTBCM: 318 90% Confidence Interval Upper Limit: 452
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 782 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 318 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 782 90% Confidence Interval Upper Limit: 1395 Lower Limit: 473	Mean Time Between Corrective Maintenance MTBCM: 318 90% Confidence Interval Upper Limit: 452
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 782 90% Confidence Interval Upper Limit: 1395 Lower Limit: 473 Main	Mean Time Between Corrective Maintenance MTBCM: 318 90% Confidence Interval Upper Limit: 452 Lower Limit: 231
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 318 90% Confidence Interval Upper Limit: 452 Lower Limit: 231
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:1395 Lower Limit:473 Main Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 318 90% Confidence Interval Upper Limit: 452 Lower Limit: 231 Intainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:1395 Lower Limit:473 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :22.2	Mean Time Between Corrective Maintenance MTBCM: 318 90% Confidence Interval Upper Limit: 452 Lower Limit: 231
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:1395 Lower Limit:473 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :22.2 MCMM _f :8.0 Max. Observed MH:85	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:1395 Lower Limit:473 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :22.2 MCMM _f :8.0 Max. Observed MH:85	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

reliefal Description	Ty Cap 85 lbs @ 56 FPM
CID/APL Number(s): 590390020 *(2)	Federal Stock Number: None *(1)
Equipment Identification Code: KTO4	ADTIVITY AND MORPHUS AND DESCRIPTION
Pechnical Manual: None	SERVICE CONTROL OF THE CONTROL OF TH
Manufacturer: 07586 Kornylak Corp	Manufacture of the Control of the Co
Ве	asic Data
Ship Population: AF 61;	Equip. Population/Ship: 6 ea/AF 61;
Fauin Population in Data Base.	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.10, B =	0.025, C = 0.025
Total Equip. Operating Time (hours):	6034
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
Total CMc Renair Man-Hours: 35	Total CM Repair Man-Hours:216
Maintenance Factors: 0.67	
	Moon Time Retween Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
	MTBCM: 402
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval	MTBCM: 402 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309	MTBCM: 402 90% Confidence Interval Upper Limit: 653
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval	MTBCM: 402 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510	MTBCM: 402 90% Confidence Interval Upper Limit: 653
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510 Maintai	MTBCM: 402 90% Confidence Interval Upper Limit: 653 Lower Limit: 261
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510	MTBCM: 402 90% Confidence Interval Upper Limit: 653 Lower Limit: 261 inability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510 Maintai Corrective Maintenance — (Forced Shutdown	MTBCM: 402 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.9 MCMM _f : 2.5	MTBCM: 402 90% Confidence Interval Upper Limit: 653 Lower Limit: 261 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6 MCMM _{cm} : 8.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.9 MCMM _f : 2.5 Max. Observed MH: 22	MTBCM: 402 90% Confidence Interval Upper Limit: 653 Lower Limit: 261 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6 MCMM _{cm} : 8.0 Max. Observed MH: 63
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.9 MCMM _f : 2.5 Max. Observed MH: 22 MCMM _f : 5.8	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 3.9 MCMM _f : 2.5 Max. Observed MH: 22	MTBCM: 402 90% Confidence Interval Upper Limit: 653 Lower Limit: 261 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.6 MCMM _{cm} : 8.0 Max. Observed MH: 63
(Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$: 1005 90% Confidence Interval Upper Limit: 2309 Lower Limit: 510 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: 3.9 MCMM $_{\rm f}$: 2.5 Max. Observed MH: 22 MCMM $_{\rm f}$: 5.8	MTBCM:

Joun Name: Conveyor, Vertical Stor	0
General Description: Conveyor Vert Tray	Ty Cap 85 lbs @ 56 FPM
CID/APL Number(s): 590390026	Federal Stock Number: None *(1)
Equipment Identification Code: KTO4	
Technical Manual: None	
Manufacturer: 07586 Kornylak Corp	
	ic Data
Ship Population: DE 1045; DEG 1,2,4,5;	Equip. Population/Ship: 1 ea/DE; DEG;
Equip. Population in Data Base:5	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.05, B =	0.05, C = 0.05
Total Equip. Operating Time (hours):4	349
	Corrective Maintenance Events (CM): 32
Total CMc Repair Man-Hours: 499	Total CM Repair Man-Hours: 1041
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:187
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 135 90% Confidence Interval Upper Limit: 187 Lower Limit: 101
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Conveyor Vertical Stor	res, Tray Type
General Description: Conveyor, Vert Tra	ay Ty Cap 3000 lbs @ 30 FPM
CID/APL Number(s): 590440001,5904400	02 Federal Stock Number: None *(1)
Equipment Identification Code: KTO4	Escapación de la Company Code (Company Code)
Technical Manual: 316-0276	Interest (printing)
Manufacturer: 82800 Link Belt Co.	
Be Be	asic Data
ATR 1 CA	Design China 2 69/AFG
Ship Population: AFS 1, 2;	Equip. Population/Ship: 2 ea/AFS Data Assessment Period: 7/1/67 - 6/30/6
Equip. Population in Data Base:	Data Assessment Period: 7/1/07 - 0/30/0
Total Equip. Operating Time (hours): 32	
Total Number of: Failures (CM _e): 106	Corrective Maintenance Events (CM):127
Maintenance Factors: 0.67	Total CM Repair Man-Hours:674
Maintenance Factors:	
Kenai	bility Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f :30	MTBCM:25
90% Confidence Interval	90% Confidence Interval
Upper Limit: 36	Upper Limit: 29
Lower Limit: 26	Lower Limit: 22
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Eglet)-etronik-grettell
MTTR _f : 3.3	MTTR _{cm} :3.5
MCMM _f : 0.4	MCMM _{cm} :0.5
Max. Observed MH: 220	Max. Observed MH: 220
MCMMe: 4.9	MCMM _{cm} :5.3
Variance:583	Variance: 519
Indicated Distribution(s): Exponential	Normal Log Normal X
#/1\ TD_A. Dwg - TV 0	678-34
*REMARKS: *(1) ID-A; Dwg - LK 2	678-34

Noun Name: Conveyor, Vertical S	Stores, Tray Type
General Description: Conveyor, Vert	
	0004 Federal Stock Number: None *(1)
Equipment Identification Code: KTO4	
Technical Manual: 316-0275	
Manufacturer: 82800 Link Belt Co.	
Manufacturer.	
3001	Basic Data
Ship Population: AFS 1, 2;	Equip Population/Ship: 2 ea/AFS
Equip Population in Data Base: 4	Equip. Population/Ship: 2 ea/AFS Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.30, B =	0.05, C = 0.05
Total Equip. Operating Time (hours):	31448
Total Number of: Failures (CM _f): 204	Corrective Maintenance Events (CM): 294
Total CM _e Repair Man-Hours: 921	Total CM Repair Man-Hours:1441
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 154	мтвсм:106
90% Confidence Interval	90% Confidence Interval
Upper Limit:174	Upper Limit:118
Lower Limit: 137	Lower Limit: 97
	tainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 3.0	$MTTR_{cm}$: 3.3
MCMM _f : 0.5	MCMM _{cm} : 0.8
Max. Observed MH:80	Max. Observed MH: 80.0
MCMM _f : 4.5	MCMM _{cm} : 4.9
Variance:11.4	Variance: 119
Indicated Distribution (s): Exponential	Normal Log Normal _X
*REMARKS: *(1) ID-A; Dwg LK 26	678-9

Noun Name: Conveyor, Vertical St	ores, Tray Type
General Description: Conveyor, Vert Tr	
	Federal Stock Number: None *(1)
Equipment Identification Code: KTO4	abs) and released therefore the second seco
Technical Manual: 316-0275	The family research
Manufacturer: 82800 Link Belt Co.	CASAN DALL STARL SANDERS AND S
	asic Data
Ship Population: AFS 1, 2;	Equip. Population/Ship: 2 ea/AFS
Equip. Population in Data Base: 4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.10, B = 0	0.01, C = 0.01
Total Equip. Operating Time (hours):	4019 79
	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:193	Total CM Repair Man-Hours:1022
Maintenance Factors: 0.67	gressare norwene pass
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 94 90% Confidence Interval Upper Limit: 121 Lower Limit: 75	MTBCM: 61 90% Confidence Interval Upper Limit: 74 Lower Limit: 51
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.5 MCMM _f : 0.5	Corrective Maintenance — (All Events) MTTR _{cm} : 8.6 MCMM _{cm} : 1.0
Max. Observed MH: 45	Max. Observed MH: 250
MCMM _f : 3.8 Variance: 73	MCMM _{cm} : 12.9 Variance: 1433
Indicated Distribution(s): Exponential *REMARKS: *(1) ID-D Dwg - LK 26	Normal Log Normal _X

Noun Name: Conveyor, Vertical St	ores, Tray Type
General Description: Conveyor, Vert Tr	ay Ty Cap 85 lbs @ FPM
CID/APL Number(s): 590460001	Federal Stock Number: None *(1)
Equipment Identification Code: KTO4	
Technical Manual: None	
Manufacturer: 14977 Roc Mfg Co.	
	sic Data
Ship Population: LPD 4, 5, 6;	Equip. Population/Ship: 1 ea/LPD
Equip Population in Data Base: 3	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.20, B = 0	0.10, C = 0.05
Total Equip. Operating Time (hours):6	122
Total Number of: Failures (CM _f): 7	Corrective Maintenance Events (CM):13
Noistand Repair Mail-Hours. 20.67	Total CM Repair Man-Hours:195
90% Confidence Interval Upper Limit: 1863	90% Confidence Interval Upper Limit: 796 Lower Limit: 296
Lower Limit:	ability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	10.0
MTTR _f : 14.4	MTTR _{cm} : 10.0
MCMM _f : 6.0	MCMM _{cm} : 5.9 Max. Observed MH: 82
Max. Coberved Mill.	MCMM _{cm} : 15.0
MCMM _f :21.6 Variance:799	Variance: 81.60
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) Dwg - D118	

General Description: Winch Elec 1 I	OM GYP	Max Cap	400 lbs	360 FP	M
CID/APL Number(s): 620040011					
Equipment Identification Code:					Insurane?
Technical Manual: 320-0902					a leniadys?
Manufacturer: 30177 Ideal Wind	lass Co	mpany		199	no to obeyen M
	Basic D	Data			
Ship Population: DDG 24; DEG 1; DLG Equip. Population in Data Base: 4	20 % 3	,		l ea/	EG: DLG
Ship Population:	1 L) W J.	Equip. P	opulation/Sh	ip:	(100 161
Equip. Population in Data Base:	000	_ Data Ass	essment Peri	od: 7/1/67	- 6/30/69
Utilization Factors: S: A=0.05, B=					
Total Equip. Operating Time (hours):					11
Total Number of: Failures (CM _f):					
Total CM _f Repair Man-Hours:4	T	otal CM Rep	air Man-Hou	rs:	56
Maintenance Factors:	0.67			L Maddadd is	
Mean Time Between Failure (Forced Shutdown Corrective Maintena			etween Corre	ctive Mainter	nance
Mean Time Between Failure			etween Corre	ctive Mainter	nance
(Forced Shutdown Corrective Maintenan	M nce)	lean Time Be			nance
(Forced Shutdown Corrective Maintenand MTBCM _f : 1408	M nce)	lean Time Be	128.	s and supply to	nance
(Forced Shutdown Corrective Maintenant MTBCM _f : 1408 90% Confidence Interval	M nce)	ITBCM:	128.	val	
(Forced Shutdown Corrective Maintenant MTBCM _f : 1408 90% Confidence Interval Upper Limit: 27446	M nce)	ITBCM: 90% Con	128. fidence Interest Limit:	val 228	MOT) _ NOTHERM D ROS 3
(Forced Shutdown Corrective Maintenant MTBCM _f : 1408 90% Confidence Interval	M nce)	ITBCM: 90% Con	128.	val 228	MOT) _ NOTHTM 1 NOT
(Forced Shutdown Corrective Maintenand MTBCM _f : 1408 90% Confidence Interval Upper Limit: 27446 Lower Limit: 297	M nce)	ITBCM: 90% Con Upp Low	128. fidence Interest Limit:	val 228	MOT) _ NOTHTM 1 NOT
(Forced Shutdown Corrective Maintenant MTBCM _f : 1408 90% Confidence Interval Upper Limit: 27446 Lower Limit: 297	Maintainabili	ITBCM: 90% Con Upp Low	128. fidence Interer Limit: ver Limit:	val 228 77	ANDREM ORGE
(Forced Shutdown Corrective Maintenand MTBCM _f : 1408 90% Confidence Interval Upper Limit: 27446 Lower Limit: 297	Maintainabili	ITBCM: 90% Con Upp Low ty Indices	128. fidence Interer Limit: ver Limit:	val 228 77 (All Events)	MOT) ANDETM BUE L
(Forced Shutdown Corrective Maintenand MTBCM _f : 1408 90% Confidence Interval Upper Limit: 27446 Lower Limit: 297 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.7	Maintainabili	Itan Time Be ITBCM: 90% Con Upp Low ty Indices	fidence Interer Limit: ver Limit: intenance	val 228 77 (All Events)	MOT) ANDETM BUE L
(Forced Shutdown Corrective Maintenand MTBCM _f : 1408 90% Confidence Interval Upper Limit: 27446 Lower Limit: 297 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.7	Maintainabili	Itan Time Be ITBCM: 90% Con Upp Low ty Indices Corrective Ma ITTR _{cm} :	fidence Interer Limit: ver Limit: intenance 3.4 4.5	val 228 77 (All Events)	AMERICAL AMERIC
(Forced Shutdown Corrective Maintenan MTBCM $_{\rm f}$: 1408 90% Confidence Interval Upper Limit: 27446 Lower Limit: 297 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: 2.7 MCMM $_{\rm f}$: 0 Max. Observed MH: 0	Maintainabili	Itan Time Be ITBCM: 90% Con Upp Low ty Indices Corrective Ma ITTR _{cm} :	fidence Interer Limit: ver Limit: intenance 3.4 4.5	val 228 77 (All Events)	AMERICAL AMERIC
(Forced Shutdown Corrective Maintenand MTBCM _f :	Maintainabili C	Itan Time Be ITBCM: 90% Con Upp Low ty Indices orrective Ma ITTR _{cm} : ICMM _{cm} : Max. Obe	128. fidence Interest Limit: ver Limit: intenance — 3.4 4.5 served MH: 5.1	228 77 (All Events)	AMERICAL AMERIC
(Forced Shutdown Corrective Maintenan MTBCM $_{\rm f}$: 1408 90% Confidence Interval Upper Limit: 27446 Lower Limit: 297 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: 2.7 MCMM $_{\rm f}$: 0 Max. Observed MH: 0	Maintainabili C	Itan Time Be ITBCM: 90% Con Upp Low ty Indices orrective Ma ITTR _{cm} : ICMM _{cm} : Max. Obe	fidence Intereser Limit: ver Limit: intenance 3.4 4.5 served MH:	228 77 (All Events)	AMERICAL AMERIC
(Forced Shutdown Corrective Maintenand MTBCM _f :	Maintainabili C M M	Jean Time Bear T	128. fidence Interest Limit: ver Limit: intenance — 3.4 4.5 served MH: 5.1	228 77 (All Events)	AMERICAL AMERIC
(Forced Shutdown Corrective Maintenand MTBCM _f :	Maintainabili C M M	Jean Time Bear T	128. fidence Intereser Limit: ver Limit: intenance 3.4 4.5 served MH: 5.1 :18	228 77 (All Events)	ANDRESS ANDRES

	OVD W 0 2700 Th
General Description: WINCH Elec. 1 DM 1	GYP Max Cap 3720 Lbs. 28 RPM LH & RH *(
	Federal Stock Number: None* (3.)
Equipment Identification Code:KVC)1
Technical Manual: 320-0260	The work also Co.
Manufacturer: 02280 American Hoist &	Derrick Co.
Be	sic Data
Ship Population. AF 52, 61;	Equip. Population/Ship: 16ea/AF
Favin Population in Data Page 32	Data Assessment Period: 7/1/67 - 6/30/69
Litilization Postors: S: A - 0.03. B = 0	0.027, C = 0.027
Total Equip. Operating Time (hours):	15761
Total Number of: Failures (CMs): 25	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:652
Maintenance Factors: 0.67	
90% Confidence Interval Upper Limit: 907 Lower Limit: 451	MTBCM:144 90% Confidence Interval Upper Limit:171 Lower Limit:123
Upper Limit: 907 Lower Limit: 451	90% Confidence Interval Upper Limit: 171
90% Confidence Interval Upper Limit: 907 Lower Limit: 451 Maintain Corrective Maintenance — (Forced Shutdown	MTBCM:
90% Confidence Interval Upper Limit: 907 Lower Limit: 451 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 144 90% Confidence Interval Upper Limit: 171 Lower Limit: 123 nability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 907 Lower Limit: 451 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4	MTBCM: 144 90% Confidence Interval Upper Limit: 171 Lower Limit: 123 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.9
90% Confidence Interval Upper Limit: 907 Lower Limit: 451 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 2.0	MTBCM: 144 90% Confidence Interval Upper Limit: 171 Lower Limit: 123 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.9 MCMM _{cm} : 1.6
90% Confidence Interval Upper Limit: 907 Lower Limit: 451 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 2.0 Max. Observed MH: 36	MTBCM: 144 90% Confidence Interval Upper Limit: 171 Lower Limit: 123 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.9 MCMM _{cm} : 1.6 Max. Observed MH: 172
90% Confidence Interval Upper Limit: 907 Lower Limit: 451 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 2.0 Max. Observed MH: 36 MCMM _f : 6.6	MTBCM: 144 90% Confidence Interval Upper Limit: 171 Lower Limit: 123 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.9 MCMM _{cm} : 1.6 Max. Observed MH: 172 MCMM _{cm} : 6.0
90% Confidence Interval Upper Limit: 907 Lower Limit: 451. Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 2.0 Max. Observed MH: 36 MCMM _f : 6.6 Variance: 92.0	MTBCM:
90% Confidence Interval Upper Limit: 907 Lower Limit: 451 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 2.0 Max. Observed MH: 36 MCMM _f : 6.6	MTBCM: 144 90% Confidence Interval Upper Limit: 171 Lower Limit: 123 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.9 MCMM _{cm} : 1.6 Max. Observed MH: 172 MCMM _{cm} : 6.0
90% Confidence Interval Upper Limit: 907 Lower Limit: 451. Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.4 MCMM _f : 2.0 Max. Observed MH: 36 MCMM _f : 6.6 Variance: 92.0 Indicated Distribution (s): Exponential	MTBCM:

Noun Name: Winches, Snaking & Wan	cping
General Description: Winch Elec. 1 DM 1	
CID/APL Number(s): 620050162	Federal Stock Number: 253950-231-0506
Equipment Identification Code: KKOC) was the same and
Technical Manual: None	September (Common)
Manufacturer: 02280 American Hois	st & Derrick Co.
	sic Data 1082, *Equip. Population/Ship: 1 ea/LST;
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.0, B = 0.0	
Total Equip. Operating Time (hours):	430
	Corrective Maintenance Events (CM): 9
Total CMs Repair Man-Hours: 41	Total CM Repair Man-Hours:167
Maintenance Factors:0.6	7
90% Confidence Interval Upper Limit: 1695 Lower Limit: 374	90% Confidence Interval Upper Limit:944 Lower Limit:282
	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTRe: 4.5	MTTR _{cm} : 12.4
MCMM _f : 5.5	MCMM _{cm} : 5.0
Max. Observed MH:14	Max. Observed MH: 120
MCMM _f : 6.8	MCMM _{cm} :18.6
Variance: 41	Variance: 1475
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *1084, 1123, 1126, 1141,	1146, 1150

	Auto-Tentioning
	1 2 GYP Max Cap 60001bs. 250 FPM
	Federal Stock Number: None *(2)
Equipment Identification Code: KUO1	
Technical Manual: 320-0947	
Manufacturer: 36099 Singerwood M	Mfg. Co.
	Basic Data
Ship Population: AFS 1, 2	Equip. Population/Ship: 30 /AFS *(3)
Equip. Population in Data Base: 60	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.011,	B = 0.001, C = 0.001
Total Equip. Operating Time (hours):	5237
Total Number of: Failures (CM _f): 75	Corrective Maintenance Events (CM): 216
Total CMe Repair Man-Hours: 1553	Total CM Repair Man-Hours:3960
Maintenance Factors: 0.67	7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 69	Mean Time Between Corrective Maintenance MTBCM: 24
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f :69 90% Confidence Interval Upper Limit:85 Lower Limit:58	Mean Time Between Corrective Maintenance MTBCM:24 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

Second Description, Winch Flhyd 1	DM 1 GYP Max Cap 14400 lbs. 105FPM LH&
VID (API Number(s): 620180018, 6201	180019 Federal Stock Number: 283950-376-1586
quipment Identification Code: KV02	
	Chance of the control
lanufacturer: 29899 Hyde Corp.	
lanuracturer:	
	Basic Data
	9,1161 *(1) Equip. Population/Ship: 2 ea/LST
quip. Population in Data Base: 22	Data Assessment Period: 7/1/67 - 6/30/69
	B = 0.03, C = 0.005
Cotal Equip. Operating Time (hours):	3086
	Corrective Maintenance Events (CM): 101
Otal CM _f Repair Man-Hours:373	Total CM Repair Man-Hours: 1799
Maintenance Factors:	
	Reliability Indices
	Reliability Indices
Maan Time Retween Foilure	
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenar	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenar MTBCM _f :134	Mean Time Between Corrective Maintenance noe) MTBCM:
(Forced Shutdown Corrective Maintenar MTBCM _f : 13 ⁴ 90% Confidence Interval	Mean Time Between Corrective Maintenance nce) MTBCM: 30 90% Confidence Interval
(Forced Shutdown Corrective Maintenar MTBCM _f : 134 90% Confidence Interval Upper Limit: 196	Mean Time Between Corrective Maintenance noe) MTBCM:
(Forced Shutdown Corrective Maintenar MTBCM _f : 13 ⁴ 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenar MTBCM _f : 13 ⁴ 90% Confidence Interval Upper Limit: 196 Lower Limit: 95	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenar MTBCM _f :34 90% Confidence Interval Upper Limit:95 Lower Limit:95	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f : 13 ⁴ 90% Confidence Interval Upper Limit: 196 Lower Limit: 95	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCMf: 134 90% Confidence Interval Upper Limit: 196 Lower Limit: 95 N Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f : 134 90% Confidence Interval Upper Limit: 196 Lower Limit: 95 Note that the contractive Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 10.8	Mean Time Between Corrective Maintenance MTBCM: 30 90% Confidence Interval Upper Limit: 36 Lower Limit: 26 Maintainability Indices Corrective Maintenance — (All Events) MTTRcm: 11.9
(Forced Shutdown Corrective Maintenary MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCMf:	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCMf: 134 90% Confidence Interval Upper Limit: 196 Lower Limit: 95 NOTIFIED TO SHUTTE STATE STAT	Mean Time Between Corrective Maintenance MTBCM:
90% Confidence Interval Upper Limit: 196 Lower Limit: 95 Note that the second of the	Mean Time Between Corrective Maintenance MTBCM:

General Description: Winch Elec 2 DM	B. 1. 104 - 1 Number: None (15-117 Dur #
	Federal Stock Number: None (15-117 Dwg. #
	123
Manufacturer: 29899 Hyde Corp.	
	Basic Data
Ship Population: LST 1173, 1174, 1175,	1176; Equip. Population/Ship: 1 ea/LST
Fauin Population in Data Rase	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.006.	B = 0.006, C = 0.006
Total Equip. Operating Time (hours):	106
Total Number of: Failures (CM _e): 4	Corrective Maintenance Events (CM):10
	Total CM Repair Man-Hours:524
Maintenance Factors:	.67
	Reliability Indices
	Reliability Indices
Mean Time Between Failure	Reliability Indices Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMf: 26	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM: 10 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 90% Confidence Interval Upper Limit:78	Mean Time Between Corrective Maintenance ce) MTBCM: 10
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM: 10 90% Confidence Interval Upper Limit: 20
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 90% Confidence Interval Upper Limit:78 Lower Limit:12	Mean Time Between Corrective Maintenance ce) MTBCM: 10 90% Confidence Interval Upper Limit: 20
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:78 Lower Limit:12	Mean Time Between Corrective Maintenance ce) MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMf:	Mean Time Between Corrective Maintenance (ce) MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance ce) MTBCM:

Noun Name: Winch, Topping, Electri	C CODY DY
General Description: Winch Elec 1 DM	
	Federal Stock Number: 2S3950-291-9483
Equipment Identification Code: K113	Land Company of the Company of the Company
Technical Manual: 320-0368	A STATE OF THE STA
Manufacturer: _76727 New England Tra	wler Eq. Co.
ent.	Basic Data
OUT PROFESSION STATES	Dasic Data
Ship Population: LST 1156, 1157, 1159, 11	61 *(1) Equip. Population/Ship: 2 ea/LST
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.0, B = 0	
Total Equip. Operating Time (hours):	2651
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):5
	Total CM Repair Man-Hours:14
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	90% Confidence Interval Upper Limit: 1346
Lower Limit: 559	Lower Limit: 252
Mainta	inability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :8.0	MTTR _{cm} :1.9
MCMM _f :O	MCMM _{cm} :0.6
Max. Observed MH:	Max. Observed MH: 12
MCMM _f : 12.0	MCMM _{cm} : 2.8
Variance:O	Variance: 26.5
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 1162,1163,1166,116	67 1168 1169 1170
-REMARKS:	01,1100,1107,1110,

Noun Name: Winches, Snaking & Warp:	III E
General Description: Winch Elec DM 2 (GYP Max Cap 1100 lbs. 40FPM
CID/APL Number(s): 620200015	Federal Stock Number: None *(1)
Equipment Identification Code: KKOO	
Technical Manual: 320-0654	
Manufacturer: 76727 New England Tra	awler Eq. Co.
ppg 0 7 0 11 11 16 17.	asic Data 2 ea/DDG; DLG 8,
Ship Population: DLG 8,9,10,11,14;	Equip. Population/Ship: 1 ea/DLG 9,10,11
Equip. Population in Data Base: 21	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.025, B	= 0.01, C = 0.001
Total Equip. Operating Time (hours):	4785
Total Number of: Failures (CM _f): 6	Corrective Maintenance Events (CM):16
	Total CM Repair Man-Hours:197
Maintenance Factors:	67
Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	bility Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 797 90% Confidence Interval Upper Limit: 1831	Mean Time Between Corrective Maintenance MTBCM:99 90% Confidence Interval Upper Limit:477
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 299 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 299 90% Confidence Interval Upper Limit: 477 Lower Limit: 197
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Winch, Boat, Electric	Name Arrago
General Description: Winch Elec 1 DM GY	Max Cap 4000 lbs. 80 FPM
CID/APL Number(s): 620260009	Federal Stock Number: 2H2030-685 6476
Equipment Identification Code: KCO1	Section and propagation of passence and
Technical Manual: 382-0047	
Manufacturer: 55102 Skagit Corp.	101 St. 1815 St. 1815 St. 1816
Basic	Data
Ship Population: MSO 462, 466;	Equip. Population/Ship: 1 ea/MSO
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: MSO - S: A = 0.02,	B = 0.0, C = 0.02
Total Equip. Operating Time (hours):	59
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):1
Total CM _f Repair Man-Hours:O Maintenance Factors:O	Total CM Repair Man-Hours:5
MTBCM _f : 965** 90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 13041
Lower Limit:	Lower Limit: 141
Maintainab	ility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :O	MTTR _{cm} :3.3
MCMM _f :	MCMM _{cm} :
Max. Observed MH:O	Max. Observed MH:
MCMM _f :O	MCMM _{cm} :5.0
Variance:O	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: ** The highest calculated operating	time for an equipment in this
study is 385 hours.	

Noun Name:	Winch, Fanfare S	treaming	
General Description:	Winch Electric	2 DM GYP Max Cap 1:	200 lbs 105 FPM LH
CID/APL Number(s):_	620420055	Federal Stock Number: 2H	3950-663-5306
Equipment Identificati	io. Code: K102		nogatein managai -
Technical Manual:	320-0470		The self resident
Manufacturer: DD 882, 883, 88 DDG 2, 5, 6, 7,	34712 Lake Shor 4, 885, 886, 888, 88 8, 9, 11, 12, 13, 1	e, Inc. 9, 941, 942, 946, 948 4, 15, 16, 17, 18, 19 ic Data ,9,10, 11, 14, 18, 19 Equip. Population/Ship: Data Assessment Period:	, 951 , 20, 24, 31
Ship Population:	- gidi an islandi - gerid	Equip. Population/Ship:	r ea/DD; DDG; DLG; DEC
Equip. Population in 1	Data Base: 56	Data Assessment Period:	7/1/67 - 6/30/69
	S: A=0.01, B=0.0,		
	g Time (hours):	3651	
Total Number of:		Corrective Maintenance Events	
Total CM _f Repair Mar	1-Hours:330	Total CM Repair Man-Hours:	1550
Maintenance Factors:	0.67		
MTBCM _f : 152 90% Confidence	Interval t: 221	Mean Time Between Corrective MTBCM: 36 90% Confidence Interval Upper Limit: Lower Limit:	44
	Maintains	ability Indices	
Failure Events Only MTTR _f : 9.2 MCMM _f : 4.5		MTTR _{cm} : 10.4 MCMM _{cm} : 5.0	Events)
Max. Observed M	M: 101	Max. Observed MH:	225
MCMM _f : 13.8 Variance: 623		Wariance: 15.7	- Administrative of the second
(1)	ont'd) DLG 29, 30, 3	Normal	Log Normal X

Noun Name: Winch, Cargo, Elec General Description: Winch Elec 1 DM	1 GYP Max Can 7400 lbe	POPPM TH
CID/APL Number(s): 620420061		
Equipment Identification Code: KVO1		Paratra senson T
Technical Manual: 320-0483	The state of the s	n. M. Jahresevif
Manufacturer: 34712 Lake Shore Inc.		en la restantación
wanuracturer:		
mat 1	Basic Data	
Ship Population: AE 21, 22; LPH 3	Equip. Population/Ship:8 ea/	AE; 8 ea/L
Ship Population: AE 21, 22; LPH 3 Equip. Population in Data Base: 24	Data Assessment Period: 7/1/	167 - 6/30/6
Utilization Factors: AE/S: A=0.02, B=0.05,	C=0.005; LPH/S: A=0.025,B=0	0.01,C=0.00
Total Equip. Operating Time (hours):	10167	
Total Number of: Failures (CM _f): 15	Corrective Maintenance Events (CM): <u>34</u>
Total CM _f Repair Man-Hours:260		
Maintenance Factors: 0.6	• • • • • • • • • • • • • • • • • • • •	copera matri
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	ability Indices Mean Time Between Corrective Main	ntenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 677	Mean Time Between Corrective Main	ntenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 677 90% Confidence Interval	Mean Time Between Corrective Main MTBCM: 299 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 677 90% Confidence Interval Upper Limit: 1100	Mean Time Between Corrective Main MTBCM: 299 90% Confidence Interval Upper Limit: 407	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:100 Lower Limit:440	Mean Time Between Corrective Main MTBCM: 299 90% Confidence Interval Upper Limit: 407	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 677 90% Confidence Interval Upper Limit: 1100 Lower Limit: 440 Mainta	Mean Time Between Corrective Main MTBCM:	1000001
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:100 Lower Limit:440 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Main MTBCM: 299 90% Confidence Interval Upper Limit: 407 Lower Limit: 225 ainability Indices Corrective Maintenance — (All Even	1000001
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Main MTBCM: 299 90% Confidence Interval Upper Limit: 407 Lower Limit: 225 ainability Indices Corrective Maintenance — (All Even	1000001
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Main MTBCM:	ts) ************************************
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Main MTBCM:	ts) ************************************
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :677 90% Confidence Interval Upper Limit:100 Lower Limit:440 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :16 MCMM _f :6.0 Max. Observed MH:171 MCMM _f :17.4	Mean Time Between Corrective Main MTBCM:	ts) ************************************
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Main MTBCM:	ts) ************************************
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :677 90% Confidence Interval Upper Limit:100 Lower Limit:440 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :16 MCMM _f :6.0 Max. Observed MH:171 MCMM _f :17.4	MTBCM: 299 90% Confidence Interval Upper Limit: 407 Lower Limit: 225 ainability Indices Corrective Maintenance — (All Even MTTR _{cm} : 7.5 MCMM _{cm} : 4.0 Max. Observed MH: 171 MCMM _{cm} : 11.3 Variance: 896	ts) ************************************

Noun Name: _ Winch, Cargo & Snaking,	Elec/Hyd
General Description: Winch Elhyd 2 DM 2	GYP Max Cap 7400 lbs. 220 FPM
CID/APL Number(s): 620420065	Federal Stock Number: None *(1)
Equipment Identification Code:KV02	
Technical Manual: None	ES(16) 200
Manufacturer: 34712 Lake Shore Inc.	
nin (Bas	ic Data
Ship Population: LST 1173, 1174, 1175, 1176	Equip. Population/Ship: 2 ea/LST;
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.0, B =	= 0.03, C = 0.005
Total Equip. Operating Time (hours):	1323
Total Number of: Failures (CM _f): 8	Corrective Maintenance Events (CM): 30
Total CMe Repair Man-Hours: 131	Total CM Repair Man-Hours: 1589
Maintenance Factors: 0.67	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 165	Mean Time Between Corrective Maintenance MTBCM: 44
(Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval	MTBCM: 44 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 44 90% Confidence Interval Upper Limit: 61
(Forced Shutdown Corrective Maintenance) MTBCM _f : 165 90% Confidence Interval	MTBCM: 44 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 44 90% Confidence Interval Upper Limit: 61
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 44 90% Confidence Interval Upper Limit: 61 Lower Limit: 33
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 44 90% Confidence Interval Upper Limit: 61 Lower Limit: 33
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 44 90% Confidence Interval Upper Limit: 61 Lower Limit: 33 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 35.3
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 44 90% Confidence Interval Upper Limit: 61 Lower Limit: 33 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 35.3 MCMM _{cm} : 8.4
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 44 90% Confidence Interval Upper Limit: 61 Lower Limit: 33 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 35.3
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 44 90% Confidence Interval Upper Limit: 61 Lower Limit: 33 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 35.3 MCMM _{cm} : 8.4
(Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$:	MTBCM: 44 90% Confidence Interval Upper Limit: 61 Lower Limit: 33 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 35.3 MCMM _{cm} : 8.4 Max. Observed MH: 598 MCMM _{cm} : 53.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 44 90% Confidence Interval Upper Limit: 61 Lower Limit: 33 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 35.3 MCMM _{cm} : 8.4 Max. Observed MH: 598 MCMM _{cm} : 53.0 Variance: 16623

Noun Name: Winch, Cargo & Snaking,	Brec/nya
	1 GYP Max Cap 7400 lbs. 220 FPM
CID/APL Number(s): 620420101	Federal Stock Number: None *(1)
Equipment Identification Code: KV02	Engine of the processor stocks
Technical Manual: None	Committee of the commit
Manufacturer: 34712 Lake Shore Inc.	The second secon
13963	Basic Data
Ship Population: AE 25	Equip. Population/Ship: 14 ea/AE 25
Equip. Population in Data Base: 14	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.02, B =	0.05, $C = 0.005$
Total Equip. Operating Time (hours):	7061
	Corrective Maintenance Events (CM):18
Total CMe Repair Man-Hours: 19.3	Total CM Repair Man-Hours:36.8
Maintenance Factors:	.67
Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 706 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 392 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 706	Mean Time Between Corrective Maintenance MTBCM: 392
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 706 90% Confidence Interval Upper Limit: 1301 Lower Limit: 416	Mean Time Between Corrective Maintenance MTBCM: 392 90% Confidence Interval Upper Limit: 607
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 706 90% Confidence Interval Upper Limit: 1301 Lower Limit: 416 Mainta	Mean Time Between Corrective Maintenance MTBCM: 392 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 392 90% Confidence Interval Upper Limit: 607 Lower Limit: 265
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 392 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 392 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 392 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 392 90% Confidence Interval Upper Limit: 607 Lower Limit: 265 Lower Limit: 105 MTTR _{cm} : 1.4 MCMM _{cm} : 1.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

(D/API, Number(s): 620420150 *(2)	Max Cap 5000 lbs. 330 FPM *(1) Federal Stock Number: None, Dwg 54155
Equipment Identification Code: KV02/F	
echnical Manual: 0926-001-5000	
Manufacturer: 34712 Lake Shore Inc.	
Bo	asic Data
hip Population: AO 105, 107, 108	Equip. Population/Ship: 24 ea/AO
equip. Population in Data Base: 72	Data Assessment Period: 7/1/67 - 6/30/69
Jtilization Factors: S: A = 0.03, B =	0.0, C = 0.0
Total Equip. Operating Time (hours):	16801
otal Number of: Failures (CM _f): 66	Corrective Maintenance Events (CM):158
Cotal CMe Repair Man-Hours: 1785	Total CM Repair Man-Hours:3217
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 254	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 254 90% Confidence Interval Upper Limit: 316	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 25 ⁴ 90% Confidence Interval Upper Limit: 316 Lower Limit: 207	Mean Time Between Corrective Maintenance MTBCM: 106 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :25\frac{1}{2} 90% Confidence Interval Upper Limit:316 Lower Limit:207 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :18.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :254 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Winch, Topping, Electric General Description: Winch Elec 1 DM		
CID/APL Number(s): 620420151		
Equipment Identification Code: K113	and the state of t	B
Technical Manual: 0926-001-5000	GDDC ELD SEL SEL Javentik serinde	
Manufacturer: 34712 Lake Shore Inc.	COLUMN STATES OF STATES OF STATES	
B B	ssic Data	
Ship Population: A0 105, 107, 108	Equip. Population/Ship: 2 ea/A0	
Equip. Population in Data Base:6	Data Assessment Period: 7/1/67 - 6/3	0/69
Utilization Factors: S: A = 0.001, B =	0.01, C = 0.01	0
Total Equip. Operating Time (hours):	633	1
Total Number of: Failures (CM _f): 4	Corrective Maintenance Events (CM):5	
Total CM _f Repair Man-Hours: 34	Total CM Repair Man-Hours:35	ng i
Maintenance Factors:	0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance	
Mean Time Detween Panute		
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	M M
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	

	Hydraulic
General Description: Winch Elhyd 1 DM Ma	x Cap 7500 lbs. 120 FPM
CID/APL Number(s): 620420152	Federal Stock Number: None *(1)
Equipment Identification Code: KCOl	Federal Stock Number: None *(1)
Technical Manual: 0926-001-5000	
Manufacturer: 34712 Lake Shore Inc.	
Bar	sic Data
Ship Population: _AO 105, 107, 108;	Equip. Population/Ship: 2 ea/AO
Equip. Population in Data Base:6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.008, B =	0.0, C = 0.0
Total Equip. Operating Time (hours):7	13
	_ Corrective Maintenance Events (CM):3
Total CM _f Repair Man-Hours:4	
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :356 90% Confidence Interval Upper Limit:2006 Lower Limit:113	Mean Time Between Corrective Maintenance MTBCM:237 90% Confidence Interval Upper Limit:872 Lower Limit:92
	ability Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 1.4	MTTR _{cm} : 1.2
MCMM _f :2.1	MCMM _{cm} :
Max. Observed MH: 3.0	Max. Observed MH:3
MCMM _f :2.1	MCMM _{cm} :1.7
Variance: 2	Variance:1
Variance:	

Equipment Identification Code: K106 Technical Manual: 326-0045 Manufacturer: 81782 Johnson Almon A Inc. Basic Data LST 1032,1073,1076,1077,1082,1084, Ship Population: 1122,1123,1126,1141,1146 *(1) Equip. Population/Ship: 1 ea/LST Equip. Population in Data Base: 27 Data Assessment Period: 7/1/67 - 6/3 Utilization Factors: S: A = 0.02, B = 0.001, C = 0.001 Total Equip. Operating Time (hours): 3318 Total Number of: Failures (CM _f): 19 Corrective Maintenance Events (CM): 74 Total CM _f Repair Man-Hours: 200 Total CM Repair Man-Hours: 2602 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 174 MTBCM _f : 44 90% Confidence Interval Upper Limit: 267 Lower Limit: 119 MTBCM: 44 90% Confidence Interval Upper Limit: 55 Lower Limit: 37 Maintainability dices Corrective Maintenance - (Forced Shutdown Failure Events Only) MTTR _c : 7.0 MCMM _f : 6.0 Max. Observed MH: 67 Max. Observed MH: 833 MCMM _{cm} : 35.2 Variance: 11237 Indicated Distribution(s): Exponential Normal Log Normal		
CID/APL Number(s): 620430001	Noun Name: Winch, Stern Anchor	STATE SOUTH SEED TO THE MANUAL PROPERTY AND ADDRESS OF THE PARTY AND AD
Equipment Identification Code: K106 Technical Manual: 326-0045 Manufacturer: 81782 Johnson Almon A Inc. Basic Data LST 1032,1073,1076,1077,1082,1084, Ship Population: 1122,1123,1126,1141,1146 *(1) Equip. Population/Ship: 1 ea/LST Equip. Population in Data Base: 27 Data Assessment Period: 7/1/67 - 6/3 Utilization Factors: S: A = 0.02, B = 0.001, C = 0.001 Total Equip. Operating Time (hours): 3318 Total Number of: Failures (CMf): 19 Corrective Maintenance Events (CM): 74 Total CMf Repair Man-Hours: 200 Total CM Repair Man-Hours: 2602 Maintenance Factors: Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 174 MTBCMf: 44 90% Confidence Interval Upper Limit: 267 Lower Limit: 119 MTBCM: 44 90% Confidence Interval Upper Limit: 55 Lower Limit: 37 Maintainability dices Corrective Maintenance - (Forced Shutdown Failure Events Only) MTTRf: 7.0 MCMMf: 6.0 Max. Observed MH: 67 Max. Observed MH: 833 MCMMcmi: 35.2 Variance: 11237 Indicated Distribution(s): Exponential Normal Log Normal		
Reliability Indices Set Set Shutdown Set Shutdown Set Set Shutdown Set Set Shutdown Set	CID/APL Number(s): 620430001	Federal Stock Number: 2S3950-231-0508
Manufacturer: 81782 Johnson Almon A Inc.	Equipment Identification Code: K106	Law year of the rabbuspass Order
LST 1032,1073,1076,1077,1082,1084, Ship Population:1122,1123,1126,1141,1146 * (1) Equip. Population:1122,1123,1126,1141,1146 * (1) Equip. Population:7/1/67 - 6/3	Technical Manual: 326-0045	munoto soma de la companya de la co
LST 1032,1073,1076,1077,1082,1084, Ship Population:1122,1123,1126,1141,1146 *(1) Equip. Population/Ship:1 ea/LST Equip. Population in Data Base:27	Manufacturer: 81782 Johnson Almon A	Inc.
LST 1032,1073,1076,1077,1082,1084, Ship Population:1122,1123,1126,1141,1146 *(1) Equip. Population/Ship: 1 ea/LST Equip. Population in Data Base: 27 Data Assessment Period: 7/1/67 - 6/3 Utilization Factors: S: A = 0.02, B = 0.001, C = 0.001 Total Equip. Operating Time (hours): 3318 Total Number of: Failures (CMf): 19 Corrective Maintenance Events (CM): 74 Total CMf Repair Man-Hours: 200 Total CM Repair Man-Hours: 2602 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 174 90% Confidence Interval Upper Limit: 267 Upper Limit: 55 Lower Limit: 37 Maintainability vidices Corrective Maintenance - (Forced Shutdown Failure Events Only) MTTRg: 7.0 MCMf; 6.0 Max. Observed MH: 67 MCMMf; 10.5 Variance: 228 Indicated Distribution(s): Exponential Normal Log Normal		
Equip. Population in Data Base: 27		
Utilization Factors: S: A = 0.02, B = 0.001, C = 0.001	Equip Population in Data Rese: 27	Data Assessment Bariad 7/1/67 6/20/66
Total Equip. Operating Time (hours): 3318 Total Number of: Failures (CMf): 19	Utilization Factors: S: A = 0.02. B =	= 0.001. C = 0.001
Total Number of: Failures (CM _f): 19		
Total CMf Repair Man-Hours: 200		
Reliability Indices		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 174		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 174	Maintenance Factors:	0.07
Lower Limit:	MTBCM _f : 174 90% Confidence Interval	90% Confidence Interval
Maintainability Idices		Lower Limit: 37
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Dowel Dimit.	Lower Limit.
Failure Events Only) MTTR _f : 7.0 MCMM _f : 6.0 Max. Observed MH: 67 MCMM _{cm} : 6.0 Max. Observed MH: 833 MCMM _{cm} : 35.2 Variance: 228 Variance: 11237 Indicated Distribution(s): Exponential Normal Log Normal		
MTTR _f : 7.0 MTTR _{cm} : 23.4 MCMM _f : 6.0 MCMM _{cm} : 6.0 Max. Observed MH: 833 MCMM _f : 10.5 MCMM _{cm} : 35.2 Variance: 11237 Indicated Distribution(s): Exponential Normal Log Normal		Paliton Sweet Colly)
MCMM _f		MTTR:23.4
Max. Observed MH: 67 Max. Observed MH: 833 MCMM _f : 10.5 Variance: 228 Variance: 11237 Indicated Distribution(s): Exponential Normal Log Normal	MCMM _f : 6.0	MCMM_:6.0
MCMM _f : 10.5 MCMM _{cm} : 35.2 Variance: 11237 Indicated Distribution(s): Exponential Normal Log Normal		
Variance: 228 Variance: 11237 Indicated Distribution(s): Exponential Normal Log Normal		
Indicated Distribution (s): Exponential Normal Log Normal	0	Variance: 11237
	Indicated Distribution(s): Exponential	Normal Log NormalX
*REMARKS: *(1)1150,1156,1157,1159,1161,1162,1163,1166,1167,1168,1169,1170,1173,1174,1175,1176;	*REMARKS: *(1)1150,1156,1157,1159, 1170,1173,1174,1175,1176;	,1161,1162,1163,1166,1167,1168,1169,

Noun Name: Winch, Main Deck Ramp	March Martin Strate Contact
	YP Max Cap 22700 lbs. 15 FPM
CID/APL Number(s): 620430004	Federal Stock Number: 2S3950-391-9487
Equipment Identification Code: K123	The second secon
Technical Manual: 320-0383	The second secon
Manufacturer: 81782 Johnson Almon A.	Inc.
LST 1156,1157,1159,1161,1	c Data 162,
Ship Population: 1103, 1100, 1107, 1100, 1109	117 Equip. Population/Ship: 1 ea/LST
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69 0.006, C = 0.006
Total Equip. Operating Time (hours):	
	Corrective Maintenance Events (CM): 32
	Total CM Repair Man-Hours:189
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 90% Confidence Interval Upper Limit:16 Lower Limit:8
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.4 MCMM _e : 1.5	Corrective Maintenance — (All Events) MTTR _{cm} :3.9 MCMM _{cm} :2.1
Max. Observed MH: 34	Max. Observed MH: 34
MCMM _f : 8.1 Variance: 138	MCMM _{cm} :
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	

Noun Name: Minesweeping Machinery	CAND WAR GO 22000 IL- NO FIRM
General Description: Winch Filed 4 DM 2	GYP Max Cap 33000 lbs. 40 FPM Federal Stock Number: 2S2030-218-1898
	_ Federal Stock Number:
Technical Manual: 320-0388	
Manufacturer: 81782 Johnson Almon A Ir	
wanufacturer: Offor Johnson Almon A II	
D.	asic Data
Ship Population: MSO 437, 438, 462, 488, 490	Equip. Population/Ship: 1 ea/MSO
Equip. Population in Data Base:5	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: $A = 0.20$, $B =$	c = 0.0
Total Equip. Operating Time (hours):	6637
	Corrective Maintenance Events (CM): 19
Total CMc Repair Man-Hours: 327	Total CM Repair Man-Hours:540
Maintenance Factors:	.67
Relial Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 737 90% Confidence Interval Upper Limit: 1414	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 533
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 737 90% Confidence Interval Upper Limit: 1414 Lower Limit: 423	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 737 90% Confidence Interval Upper Limit: 1414 Lower Limit: 423	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 533 Lower Limit: 238
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 533 Lower Limit: 238 Inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 349 90% Confidence Interval Upper Limit: 533 Lower Limit: 238 mability Indices Corrective Maintenance — (All Events) MTTRcm: 18.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

General Description: Winch Elec. 3 DM GYP Max Cap 60000 lbs. 40 FPM	Noun Name: Towing Machine, Auto. Ele	
CID/APL Number(s): 620430016	General Description: Winch Elec. 3 DM GY	P Max Cap 60000 lbs. 40 FPM
Resic Data		
Resic Data	Equipment Identification Code: KH05	
Rasic Data	Technical Manual: 325-0081	
ATF 67,72,75,76,84,85,86,91,92,96, Ship Population: 98,100,101,103,105,107,114; Equip. Population/Ship: 1 ea/ATF Equip. Population in Data Base: 17	Manufacturer: 81782 Johnson Almon A Inc	
ATF 67,72,75,76,84,85,86,91,92,96, Ship Population: 98,100,101,103,105,107,114; Equip. Population/Ship: 1 ea/ATF Equip. Population in Data Base: 17		
Ship Population: 98, 100, 101, 103, 105, 107, 114; Equip. Population/Ship: 1 ea/ATF		
Equip. Population in Data Base: 17	ATF 67,72,75,76,84,85,86,91,9	22,96,
Utilization Factors: S: A = 0.25, B = 0.0, C = 0.0		
Total Equip. Operating Time (hours): 24828 Total Number of: Failures (CMf): 10 Corrective Maintenance Events (CM): 49 Total CMf Repair Man-Hours: 1319 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2482 MTBCM: 506 90% Confidence Interval Upper Limit: 4576 Lower Limit: 1464 Lower Limit: 399 Maintainability Indices Maintenance - (Forced Shutdown Failure Events Only) MTTRf: 12.6 MCMMf: 10.2 MCMMcm: 7.4 Max. Observed MH: 75.0 MCMMf: 18.9 Variance: 517 Variance: 3434 Indicated Distribution (s): Exponential Normal Log Normai Log Normai	Equip. Population in Data Base:	Data Assessment Period: (/1/0) - 0/30/09
Total Number of: Failures (CMf): 10	Utilization Factors: S: A = 0.29, B =	28
Total CM _f Repair Man-Hours: 189	Total Equip. Operating Time (nours):	Corrective Maintenance Events (CM): 49
Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2482		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2482	Total CM _f Repair Man-Hours:	
Mean Time Between Failure	Maintenance Factors:	
Corrective Maintenance — (Forced Snutdown Failure Events Only) MTTR _f : 12.6 MCMM _f : 10.2 Max. Observed MH: 75.0 MCMM _f : 18.9 Variance: 517 Indicated Distribution (s): Exponential Corrective Maintenance — (All Events) MTTR _{cm} : 18.3 MCMM _{cm} : 7.4 Max. Observed MH: 267 MCMM _{cm} : 27.5 Variance: 3434 Log Normal	(Forced Shutdown Corrective Maintenance) MTBCM _f : 2482 90% Confidence Interval Upper Limit: 4576	MTBCM: 506 90% Confidence Interval Upper Limit: 652
Failure Events Only) MTTR _f : 12.6 MCMM _f : 10.2 Max. Observed MH: 75.0 MCMM _f : 18.9 Variance: 517 Indicated Distribution(s): Exponential MTTR _{cm} : 18.3 MCMM _{cm} : 7.4 Max. Observed MH: 267 MCMM _{cm} : 27.5 Variance: 3434 Log Normai	Maintains	ability Indices
Indicated Distribution(s): Exponential Normal Log Normal	Failure Events Only) MTTR _f : 12.6 MCMM _f : 10.2 Max. Observed MH: 75.0 MCMM _f : 18.9	MTTR _{cm} :18.3 MCMM _{cm} :7.4 Max. Observed MH:267 MCMM _{cm} :27.5
	variance:	
*REMARKS:	Indicated Distribution(s): Exponential	Normal Log Normai
	*REMARKS:	

Noun Name: Minesweeping Machinery	A TOTAL PROPERTY OF THE PROPERTY OF THE PARTY OF THE PART
General Description: Winch Elec 4 DM	2 FYP Max Cap 33000 lbs. 40 FPM
CID/APL Number(s): 620430024	Federal Stock Number: None *(1)
Equipment Identification Code:LEO1	isos ralinusteint arejentjepis
	Bounds introduction
Manufacturer: 81782 Johnson Almon A	Inc.
	Basic Data
Ship Population: MSO 466, 508, 521;	Equip. Population/Ship: 1 ea/MSO
Equip. Population in Data Base:3	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.20, B	= 0.0, C = 0.0
Total Equip. Operating Time (hours):	2824
Total Number of: Failures (CM _f): 5	Corrective Maintenance Events (CM):8
Total CMe Repair Man-Hours: 76	Total CM Repair Man-Hours:10
Maintenance Factors: 0.67	
90% Confidence Interval Upper Limit: 1433 Lower Limit: 269	MTBCM:353 90% Confidence Interval Upper Limit:709 Lower Limit:196
	ainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	CALL STATE FOR THE STATE OF THE
$ \begin{array}{ll} \mathbf{MTTR_f} : & \underline{10.1} \\ \mathbf{MCMM_f} : & \underline{12.3} \end{array} $	MTTR _{cm} : 9.2
	MCMM _{cm} :8.2
Max. Observed MH: 32	Max. Observed MH:32
MCMM _f : 15.1	MCMM _{cm} : 13.8
Variance: 188	Variance: 184
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID-Series 320; Dwg	;-E320-884-NS;

AD-A054 500

ARINC RESEARCH CORP ANNAPOLIS MD
ESTABLISHMENT OF RELIABILITY AND MAINTAINABILITY DATA BANK FOR --ETC(U)
MAR 73 E J LUTZ, D J HOFFMAN
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AD5-650

AD5-6

Noun Name: Winch, Boat, Electric	Secretaria de la Characteria del la Characteria del Characteria de la Characteria del la Characteria del la Characteria del la Characteria del la Characteria de la Characteria del la
General Description: Winch, Elec 2 DM G	YP Max Cap 26600 lbs. 40 FPM LH & RH
CID/API, Number(s): 620890018, 6208900	19 Federal Stock Number: 2H2030-273-9195
Equipment Identification Code: KCO1	A STATE OF THE STA
Technical Manual: 382-0030	480, 4000
Manufacturer: 64586 Welin Davit & Boa	t Div. of Continental Cooper &
В	Basic Data
LSD 28,29,30,31,32,33; LST	1156,1157, 66,*(1) Equip. Population/Ship: 2 ea/LSD; LST
Ship Population: 1159, 1161, 1162, 1163, 116	66,*(1 Equip. Population/Ship: 2 ea/LSD, LS1
Equip. Population in Data Base: 34	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: LSD-S: A=0.10, B=0.	Data Assessment Period: 7/1/67 - 6/30/69 O, C=0.01/LST-S: A=0.01, B=0.0, C=0.01 4434
Total Equip. Operating Time (hours):	4434
Total Number of: Failures (CMf):	Corrective Maintenance Events (OM)
	Total CM Repair Man-Hours:9
Maintenance Factors: 0.67	
MTBCM _f : 6397** 90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 2251
Lower Limit:	Lower Limit: 442
Mainta	ainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :O	MTTR _{cm} : 1.2
MCMM _f : 0	MCMM _{cm} :
Max. Observed MH:	Max. Observed MH:5
MCMM _f :O	$\overline{\text{MCMM}}_{\text{cm}}: \frac{1\cdot 7}{1}$
Variance:	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 1167,1168,1169,11	70;
** The highest calculated operat	ting time for an equipment in this
study is 149 hours.	

CID/APL Number(s): 620890036, 620890	0047 Federal Stock Number: None *(1)
Equipment Identification Code: KCO1	
Technical Manual: 382-0061	1880 18 Samuel Leanute
Manufacturer: 64586 Welin Davit & I	Boat Div. of Continental Cooper &.
	Basic Data
LSD 34, 35; Ship Population: LST 1173,1174,1175,1	1176; Equip. Population/Ship: 2 ea/LSD; 2 ea/
	Data Assessment Period: 7/1/67 - 6/30/
	0.01, C=0.01/LST-S: A=0.01, B=0.0, C=0
Total Equip. Operating Time (hours):	10
	Corrective Maintenance Events (CM): 4
Total CM ₆ Repair Man-Hours: 6.4	Total CM Repair Man-Hours: 23
Maintenance Factors: 0.67	2013-03 - 10-401-
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2089 90% Confidence Interval Upper Limit: 11757	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2089 90% Confidence Interval	Mean Time Between Corrective Maintenance) MTBCM: 1044 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:11757 Lower Limit:664	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2089 90% Confidence Interval Upper Limit: 11757 Lower Limit: 664 Main	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058 Lower Limit: 456
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058 Lower Limit: 456 ntainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058 Lower Limit: 456 ntainability Indices Corrective Maintenance — (All Events) MTTRom: 3.8
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058 Lower Limit: 456 ntainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.8 MCMM _{cm} : 5.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058 Lower Limit: 456 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.8 MCMM _{cm} : 5.2 Max. Observed MH: 10
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058 Lower Limit: 456 ntainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.8 MCMM _{cm} : 5.2
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 1044 90% Confidence Interval Upper Limit: 3058 Lower Limit: 456 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.8 MCMM _{cm} : 5.2 Max. Observed MH: 10 MCMM _{cm} : 5.7

Noun Name: Winch, Boat, Electric	No. 10 10 10 10 10 10 10 10 10 10 10 10 10
General Description: Winch, Elec 2 DM G	YP Max Cap 7140 lbs. 40 FPM RH
	_ Federal Stock Number: None *(1)
Equipment Identification Code: KCOl	
Technical Manual: 320-0481	
Manufacturer: 64586 Welin Davit & Boa	t Div. of Continental Cooper &.
В	asic Data
OF 1028 1020	D . D . W. GI. 1 00 /DE DIC
	Equip. Population/Ship: 1 ea/DE; DLG
	Data Assessment Period: 7/1/67 - 6/30/69
	, C=0.005
	71
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:4	Total CM Repair Man-Hours:4
Maintenance Factors: 0.67	
MTBCM _f : 71 90% Confidence Interval Upper Limit: 1384 Lower Limit: 15	90% Confidence Interval Upper Limit: 1384
Lower Limit:	Lower Limit:15
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
$MTTR_{\mathbf{f}}: \frac{2.7}{}$	cin
MCMM _f : O	MCMM _{cm} :
Max. Observed MH:	Max. Observed MH:
MCMM _f :4.0	MCMM _{cm} :4.0
Variance:O	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal

General Description: Winch Elec 2 DM GYI	P Max Cap 15000 lbs. 40 FPM RH
CID/APL Number(s): 620890065 *(2)	_ Federal Stock Number:None *(1)
Equipment Identification Code: KCO1	A STA THE PARTY OF
Technical Manual: None	A PARTIES AND AND A LINE OF THE PARTIES AND AND ADDRESS OF THE PARTIES AND
Manufacturer: 64586 Welin Davit & Boa	at Div. of Continental Cooper &.
Ba	asic Data
gr: p DIG 8 9 10 11 1/4:	3 ea/DLG 8,14
Ship Population: Det 0,9,10,11,14,	Equip. Population/Ship: 2 ea/DLG 9,10 Data Assessment Period: 7/1/67 - 6/30/6
Equip. Population in Data Base: 12 Utilization Factors: S: A=0.01, B=0.0,	C=0.01
	1471
Total Number of: Failures (CM _f): 3	
Total CM _f Repair Man-Hours: 14 Maintenance Factors: 0.67	Total CM Repair Man-Hours:
Maintenance Factors: 0.67	
	an code of the last
Ivenat	bility Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
[HE GOOD FOR WHAT TO SHOW HE HAD SHOWN HE SHOW HE HAD	MTBCM:367
MTBCM _f : 490 90% Confidence Interval	MTBCM: 367 90% Confidence Interval
MTBCM _f : 490 90% Confidence Interval Upper Limit: 1799	90% Confidence Interval Upper Limit: 1077
MTBCM _f : 490	90% Confidence Interval
MTBCM _f : 490 90% Confidence Interval Upper Limit: 1799	90% Confidence Interval Upper Limit:1077
MTBCM _f :	90% Confidence Interval Upper Limit: 1077
MTBCM _f :490 90% Confidence Interval Upper Limit:1799 Lower Limit:190 Maintain	90% Confidence Interval Upper Limit: 1077 Lower Limit: 161 nability Indices
MTBCM _f : 490 90% Confidence Interval Upper Limit: 1799 Lower Limit: 190 Maintain Corrective Maintenance — (Forced Shutdown	90% Confidence Interval Upper Limit:1077 Lower Limit:161
MTBCM _f : 490 90% Confidence Interval Upper Limit: 1799 Lower Limit: 190 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit:1077 Lower Limit:161 nability Indices Corrective Maintenance — (All Events)
MTBCM _f :490 90% Confidence Interval Upper Limit:1799 Lower Limit:190 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :0.44	90% Confidence Interval Upper Limit: 1077 Lower Limit: 161 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.9
MTBCM _f :	90% Confidence Interval Upper Limit:
MTBCM _f :	90% Confidence Interval Upper Limit:
MTBCM _f :	90% Confidence Interval Upper Limit: 1077 Lower Limit: 161 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.9 MCMM _{cm} : 6.3 Max. Observed MH: 75
MTBCM _f :	90% Confidence Interval Upper Limit:
MTBCM _f :	90% Confidence Interval Upper Limit: 1077 Lower Limit: 161 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.9 MCMM _{cm} : 6.3 Max. Observed MH: 75 MCMM _{cm} : 22.3

Noun Name: Winch, Boat, Electric	
General Description: Winch, Elec 2 DM	GYP Max Cap LBS FPM LH & RH
CID/APL Number(s): 620890078 *(1)	Federal Stock Number: None *(2)
Equipment Identification Code: KCOl	THE CONTRACT OF THE PROPERTY O
Technical Manual: 382-0097	A STATE OF THE PROPERTY OF STATE OF STA
Manufacturer: 64586 Welin Davit & Bo	at Div. Continental Cooper &.
DDG 2,5,6,7,8,9,11,12, Ship Population: 16,18,19,20,21,24; *(3) Equip. Population in Data Base: 44 Utilization Factors: DDG-S: A=0.01, B=0	Equip. Population/Ship: 2 ea/DDG:DE:DEG; Data Assessment Period: 7/1/67 - 6/30/69 O. C=O.Ol: DE/DEG-S: A=O.005.B=O.0.C=0.0
Total Equip. Operating Time (hours):	5110
	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 20.0 Maintenance Factors: 0.67	Total CM Repair Man-Hours:61
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1703	Mean Time Between Corrective Maintenance MTBCM: 393
(Forced Shutdown Corrective Maintenance) MTBCM _f :1703 90% Confidence Interval Upper Limit:6249	MTBCM: 393 90% Confidence Interval Upper Limit: 665
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1703 90% Confidence Interval	MTBCM: 393 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1703 90% Confidence Interval Upper Limit: 6249 Lower Limit: 659	MTBCM: 393 90% Confidence Interval Upper Limit: 665
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1703 90% Confidence Interval Upper Limit: 6249 Lower Limit: 659 Maintair	MTBCM: 393 90% Confidence Interval Upper Limit: 665 Lower Limit: 247
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 393 90% Confidence Interval Upper Limit: 665 Lower Limit: 247
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1703 90% Confidence Interval	MTBCM: 393 90% Confidence Interval Upper Limit: 665 Lower Limit: 247 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.44
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 393 90% Confidence Interval Upper Limit: 665 Lower Limit: 247
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1703 90% Confidence Interval	MTBCM: 393 90% Confidence Interval Upper Limit: 665 Lower Limit: 247 hability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.4 MCMM _{cm} : 4.6 Max. Observed MH: 15
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 393 90% Confidence Interval Upper Limit: 665 Lower Limit: 247 hability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.4 MCMM _{cm} : 4.6 Max. Observed MH: 15
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 393 90% Confidence Interval Upper Limit: 665 Lower Limit: 247 hability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.4 MCMM _{cm} : 4.6 Max. Observed MH: 15 MCMM _{cm} : 5.0 Variance: 20.0 Normal Log Normal *(2) ID-A-135A-SP: Dwg-3723;

Noun Name: Winch, Boat, Electric General Description: Winch Elec 2 DM GYP Max Cap LBS FPM RH & LH CID/APL Number(s): 620890117, 62089018 Federal Stock Number: None *(1) Equipment Identification Code: KCO1 Technical Manual: 382-0110 Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper &. Basic Data Ship Population: AFS 1,2,; DLG 19,22,23 Equip. Population/Ship: 2 ea/AFS; DLG Equip. Population: AFS -S: A=0.01, B=0.0, C=0.01/DLG-S: A=0.01, B=0.0, C=0.02 Utilization Factors: AFS-S: A=0.01, B=0.0, C=0.01/DLG-S: A=0.01, B=0.0, C=0.02 Total Equip. Operating Time (hours): 982 Total Number of: Failures (CMp): 2 Corrective Maintenance Events (CM): 3 Total CMg Repair Man-Hours: 16 Total CM Repair Man-Hours: 21 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM: 327 90% Confidence Interval Upper Limit: 1201 Lower Limit: 156 Maintainability Indices Corrective Maintenance - (Forced Shutdown Pailure Events Only) MTTR _f : 5.3 MCMM _f : 5.3 MCMM _g : 8.0 Max. Observed MH: 14 MCMM _f : 8.0 Max. Observed MH: 14 MCMM _f : 8.0 Variance: 72 Indicated Distribution(s): Exponential Normal Log Normal +REMARKS: *(1) ID Type A-135S-SP; Dwg-3813;		
CID/APL Number(s): 620890117, 620890118 Federal Stock Number: None *(1)	General Description: Winch Elec 2 DM GY	P Max Cap LBS FPM RH & LH
Equipment Identification Code: KCO1 Technical Manual: 382-0110 Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Div. of Continental Cooper & Manufacturer: 64586 Wellin Davit & Boat Davit &	CID/APL Number(s): 620890117, 620890	118Federal Stock Number: None *(1)
Technical Manual: 382-0110 Manufacturer: 64586 Welin Devit & Boat Div. of Continental Cooper &. Basic Data Ship Population: AFS 1,2,; DLG 19,22,23 Equip. Population/Ship: 2 ea/AFS; DLG Equip. Population in Data Base: 10 Data Assessment Period: 7/1/67 - 6/30/69 Utilization Factors: AFS-S: A=0.01, B=0.0, C=0.01/DLG-S: A=0.01, B=0.0, C=0.02 Total Equip. Operating Time (hours): 982 Total Number of: Failures (CMf): 2 Corrective Maintenance Events (CM): 3 Total CMf Repair Man-Hours: 16 Total CM Repair Man-Hours: 21 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM; 491 MTBCM: 327 90% Confidence Interval Upper Limit: 1201 Lower Limit: 127 Maintainability Indices Corrective Maintenance - (Forced Shutdown Failure Events Only) MTTR; 5.3 McMf; 8.0 McMom; 5.0 Max. Observed MH: 14 MCMMf; 8.0 Max. Observed MH: 14 MCMMf; 8.0 Variance: 72 Variance: 39 Indicated Distribution(s): Exponential Normal Log Normal		
Manufacturer: 64586 Melin Davit & Boat Div. of Continental Cooper & Basic Data		Source Manager Service
Ship Population: AFS 1,2,; DLG 19,22,23 Equip. Population/Ship: 2 ea/AFS; DLG 19,22,23 Equip. Population/Ship: 2 ea/AFS; DLG 19,22,23 Equip. Population/Ship: 2 ea/AFS; DLG 19,22,23 Equip. Population/Ship: 2 ea/AFS; DLG 19,22,23 Equip. Population/Ship: 2 ea/AFS; DLG 19,22,23 Equip. Population (71,22,23) DLG 19,22,23 DLG 19,22,23 Equip. Population (71,22,23) DLG 19,22,23 Equip. Population (71,22,23) DLG 19,22,23 DLG 19		t Div. of Continental Cooper &.
Ship Population: AFS 1,2,; DLG 19,22,23 Equip. Population/Ship: 2 ea/AFS; DLG 29,23 Equip. Population/Ship: 2 ea/AFS; DLG 20,069		
Equip. Population in Data Base: 10	B B	asic Data
Equip. Population in Data Base: 10		
Utilization Factors: AFS-S: A=0.01, B=0.0, C=0.01/DLG-S: A=0.01, B=0.0, C=0.02 Total Equip. Operating Time (hours): 982 Total Number of: Failures (CMf): 2 Corrective Maintenance Events (CM): 3 Total CMf Repair Man-Hours: 16 Total CM Repair Man-Hours: 21 Maintenance Factors: 0.67		
Total Equip. Operating Time (hours): 982 Total Number of: Failures (CMf): 2 Corrective Maintenance Events (CM): 3	Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Total Number of: Failures (CM _f): 2	Utilization Factors: AFS-S: A=0.01, B=0.	0, C=0.01/DEG=S: R=0.01, B=0.0, C=0.01
Total CM _f Repair Man-Hours: 16	Total Equip. Operating Time (hours):	2
Maintenance Factors:		
Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 491	Total CM _f Repair Man-Hours: 16	Total CM Repair Man-Hours:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 491	Maintenance Factors: 0.67	and the second s
Lower Limit: 150 Lower Limit: 127	(Forced Shutdown Corrective Maintenance) MTBCM _f : 491 90% Confidence Interval	MTBCM: 327 90% Confidence Interval
Lower Limit: 156 Maintainability Indices Lower Limit: 127	Upper Limit: 2763	Upper Limit: 1201
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Lower Limit: 156	Lower Limit: 127
Failure Events Only) MTTR _f : 5.3		
MTTR _f : 5.3 MTTR _{cm} : 4.7 MCMM _f : 8.0 MCMM _{cm} : 5.0 Max. Observed MH: 14 Max. Observed MH: 14 MCMM _f : 8.0 MCMM _{cm} : 7.0 Variance: 39 Indicated Distribution(s): Exponential Normal Log Normal		Corrective Maintenance — (All Events)
MCMM _f :		MITTER . J. 7
Max. Observed MH: 14 MCMM _f : 8.0 Variance: 72 Indicated Distribution(s): Exponential Max. Observed MH: 14 MCMM _{cm} : 7.0 Variance: 39 Log Normal	MTTR _f :	MCMM : 5.0
MCMM _f : 8.0 Variance: 72 Indicated Distribution(s): Exponential Normal Log Normal		Max Observed MH: 14
Variance: Variance: Variance: Log Normal	Max. Observed Mri:	MCMM · 7.0
Indicated Distribution(s): Exponential Normal Log Normal		Variance: 39
	variance:	
**************************************	Indicated Distribution(s): Exponential	Normal Log Normal
	** TO TUDE 4-1355-SP	: Dwg-3813:

General Description: Winch Elec 2 DM Ma:	x Cap LBS FPM RH
CID/APL Number(s): 620890123	Federal Stock Number: None *(1)
VCO1	
Technical Manual: 0982-001-3000	
Manufacturer: 64586 Welin Davit & Boa	t Div. of Continental Cooper &.
B B	asic Data
Ship Population: LPD 4,5,6,7;	Equip. Population/Ship: 1 ea/LPD Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.02, B=0.0	, C=0.02
Total Equip. Operating Time (hours):	958
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):3
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:60
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 958	MTBCM: 319
(Forced Shutdown Corrective Maintenance) MTBCM _f : 958 90% Confidence Interval	MTBCM: 319 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 958	MTBCM: 319
(Forced Shutdown Corrective Maintenance) MTBCM _f : 958 90% Confidence Interval Upper Limit: 18674 Lower Limit: 202	MTBCM: 319 90% Confidence Interval Upper Limit: 1172
(Forced Shutdown Corrective Maintenance) MTBCM _f : 958 90% Confidence Interval Upper Limit: 18674 Lower Limit: 202	MTBCM: 319 90% Confidence Interval Upper Limit: 1172 Lower Limit: 124 inability Indices
(Forced Shutdown Corrective Maintenance) MTBCM _f : 958 90% Confidence Interval Upper Limit: 18674 Lower Limit: 202 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 319 90% Confidence Interval Upper Limit: 1172 Lower Limit: 124 inability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 958 90% Confidence Interval Upper Limit: 18674 Lower Limit: 202 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.0	MTBCM: 319 90% Confidence Interval Upper Limit: 1172 Lower Limit: 124 inability Indices Corrective Maintenance — (All Events) MTTRom: 13.3
(Forced Shutdown Corrective Maintenance) MTBCM _f : 958 90% Confidence Interval Upper Limit: 18674 Lower Limit: 202 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.0 MCMM _f : 0	MTBCM: 319 90% Confidence Interval Upper Limit: 1172 Lower Limit: 124 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.3 MCMM _{cm} : 25.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :958 90% Confidence Interval	MTBCM:90% Confidence Interval Upper Limit:1172 Lower Limit:124 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} :13.3 MCMM _{cm} :25.0 Max. Observed MH:26 MCMM _{cm} :20.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :958 90% Confidence Interval	MTBCM:90% Confidence Interval Upper Limit:1172 Lower Limit:124 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} :13.3 MCMM _{cm} :25.0 Max. Observed MH:26 MCMM _{cm} :20.0

	2 GYP Max Cap 7500 lbs. 100 FPM	
	Federal Stock Number: None *(1)	
Equipment Identification Code: LEO1		
Technical Manual: <u>None</u> Manufacturer: 03398 Universal Crane	Hoist & Monorail Co	North
Manufacturer: 033390 Universal Clane	noist & Monorali Co.	
	Basic Data	
Ship Population: MSC 198, 199, 205, 206, 20	07,*(2) Equip. Population/Ship: 1 ea/MSC	14
	Data Assessment Period: 7/1/67 - 6/3	
Utilization Factors: S: A = 0.20,	B = 0.0, C = 0.0	is li
Total Equip. Operating Time (hours):	8376	
	Corrective Maintenance Events (CM):36	
Total CMc Repair Man-Hours: 485	Total CM Repair Man-Hours: 2327	
Maintenance Factors:	Total CM Repair Man-Hours: 2327	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 698 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 232 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 698 90% Confidence Interval Upper Limit: 1210	Mean Time Between Corrective Maintenance MTBCM: 232 90% Confidence Interval Upper Limit: 313	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 698 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 232 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 698 90% Confidence Interval Upper Limit: 1210 Lower Limit: 431	Mean Time Between Corrective Maintenance MTBCM: 232 90% Confidence Interval Upper Limit: 313	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 698 90% Confidence Interval Upper Limit: 1210 Lower Limit: 431 Mainte	Mean Time Between Corrective Maintenance MTBCM: 232 90% Confidence Interval Upper Limit: 313 Lower Limit: 176	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 698 90% Confidence Interval Upper Limit: 1210 Lower Limit: 431 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 232 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 232 90% Confidence Interval Upper Limit: 313 Lower Limit: 176 ainability Indices Corrective Maintenance – (All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 232 90% Confidence Interval Upper Limit: 313 Lower Limit: 176 ainability Indices Corrective Maintenance – (All Events) MTTR _{cm} : 43.1 MCMM _{cm} : 11.1	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	(1) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4

	!
General Description: Winch Elec DM 2	GYP Max Cap 1500 lbs 85 FPM
	Federal Stock Number: None *(1)
Equipment Identification Code: KVO	1
Technical Manual: 320-0807	
Manufacturer: 16603 Western Gear Co	rp Heavy Machinery Div.
	Basic Data
Ship Population: DLG 22, 23;	Equip. Population/Ship: 2 ea/DLG
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/69
	= 0.01, C = 0.001
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):1
Total CMe Repair Man-Hours:	Total CM Repair Man-Hours:3
Maintenance Factors:	67
(Forced Shutdown Corrective Maintenance) MTRCM: 1228**	Mean Time Between Corrective Maintenance
MTBCM _f : 1228** 90% Confidence Interval Upper Limit:	MTBCM: 851 90% Confidence Interval Upper Limit: 16589
MTBCM _f : 1228** 90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 851 90% Confidence Interval Upper Limit: 16589 Lower Limit: 179
MTBCM _f :	MTBCM: 851 90% Confidence Interval Upper Limit: 16589
MTBCM _f : 1228** 90% Confidence Interval Upper Limit: Lower Limit: Maint	MTBCM: 851 90% Confidence Interval Upper Limit: 16589 Lower Limit: 179
MTBCM _f : 1228** 90% Confidence Interval Upper Limit: Lower Limit: Maint Corrective Maintenance — (Forced Shutdown	MTBCM: 851 90% Confidence Interval Upper Limit: 16589 Lower Limit: 179
MTBCM _f :	MTBCM: 851 90% Confidence Interval Upper Limit: 16589 Lower Limit: 179 sainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.0 MCMM _{cm} : 0
MTBCM _f :	MTBCM:
MTBCM _f :	MTBCM: 851 90% Confidence Interval Upper Limit: 16589 Lower Limit: 179 sainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.0 MCMM _{cm} : 0 Max. Observed MH: 0 MCMM _{cm} : 3.0 Variance: 0 Normal Log Normal

CID/API Number(a), 627/170007	DM GYP Max Cap 400 lbs 360 FPM
CID/APL Number(s): 621410001	Federal Stock Number: None * (1)
Equipment Identification Code: K101 Technical Manual: 320-0776	
	sion of American Chain & Cable Compan
Manufacturer:	Stoff of American chain & Cable Compan
	Basic Data
Ship Population: DDG 20 & 21; DLG 18 8	Equip. Population/Ship: lea/DDG; DLG Data Assessment Period: 7/1/67 - 6/30
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30
Utilization Factors: S: A=0.05, B=0.0,	
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):16
	Total CM Repair Man-Hours: 318
Maintenance Factors: 0.67	NOT A THE RESIDENCE OF THE PARTY OF THE RESIDENCE OF THE PARTY OF THE
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 84
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 84 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090	Mean Time Between Corrective Maintenance MTBCM: 84 90% Confidence Interval Upper Limit: 133
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 84 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090 Lower Limit: 304	Mean Time Between Corrective Maintenance MTBCM: 84 90% Confidence Interval Upper Limit: 133
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090 Lower Limit: 304 Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 84 90% Confidence Interval Upper Limit: 133 Lower Limit: 57
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090 Lower Limit: 304 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 84 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090 Lower Limit: 304 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 53.3	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090 Lower Limit: 304 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 53.3 MCMM _f : 0	Mean Time Between Corrective Maintenance MTBCM:84 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090 Lower Limit: 304 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 53.3 MCMM _f : 0 Max. Observed MH: 0	Mean Time Between Corrective Maintenance MTBCM:84
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090 Lower Limit: 304 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 53.3 MCMM _f : 0	Mean Time Between Corrective Maintenance MTBCM:84 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1441 90% Confidence Interval Upper Limit: 28090 Lower Limit: 304 Maint: Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 53.3 MCMM _f : 0 Max. Observed MH: 0 MCMM _f : 80.0	Mean Time Between Corrective Maintenance MTBCM:84 90% Confidence Interval

Noun Name: Winch, Bathythermograph	
General Description: Winch, Elec 1 DM M	ax Cap 400 lbs. 360 FPM
CID/APL Number(s): 621410006	Federal Stock Number: None * (1)
Equipment Identification Code: K101	
Equipment Identification Code: K101 Technical Manual: 320-0780	
Manufacturer: 05637 Acco Eq. Div. of	American Chain & Cable Company
Mag ago, Mag haz higa	c Data
Ship Population: 466, 488, 490, 508, 52	Equip. Population/Ship: lea/MSC; MSØ Data Assessment Period: 7/1/67 - 6/30/69
Equip Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.05, B=0.0, C	=0.0
Total Equip. Operating Time (hours): 23	
Total Number of: Failures (CM _e): 10	Corrective Maintenance Events (CM): 20
	Total CM Repair Man-Hours:115
Maintenance Factors: 0.67	Total CM Repair Man-Hours:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 233	Mean Time Between Corrective Maintenance MTBCM:16
90% Confidence Interval	90% Confidence Interval
Upper Limit: 430	Upper Limit:176
Lower Limit:138	Lower Limit: 80
	pility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR ₆ :3.7	MTTR _{cm} : 3.8
мсмм _f :	MCMM _{cm} :3.8
Max. Observed MH:22	Max. Observed MH:22
Wariance: 41	MCMM _{cm} :5.7 Variance:29
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: * (1) ID Non-Magnetic;	Dwg. 14501

Noun Name: Winch, Boat, Electric	
General Description: Winch Elec 2 DM M	Max Cap 5750 lbs. 80 FPM RH
CID/APL Number(s): 621490005 *(1)	Federal Stock Number: None *(2)
Equipment Identification Code: KCO1	
Technical Manual: None	
Manufacturer: 14977 Roc Mfg. Co.; 832	299 Eaton Towne & Yale Inc.
В	asic Data 2 ea/DLG 33
Ship Population: DLG 29,30,31,33;	Equip. Population/Ship: 4 ea/DLG 29,30 &
Equip. Population in Data Base: 14	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: DLG-S: A=0.01, B=0.	.0, C=0.01
Total Equip. Operating Time (hours):150	8
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):
Total CM. Renair Man-Hours: 21	Total CM Repair Man-Hours:21
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1508 90% Confidence Interval Upper Limit: 29396 Lower Limit: 318	MTBCM:
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 14.3	MTTR _{cm} :14.3
MCMM _f :	MCMM _{cm} :
Max. Observed MH:O	Max. Observed MH:O
MCMM _f : 21.4	MCMM _{cm} : 21.4
Variance:O	Variance:O
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 621450006, 62023	20061; *(2) ID-B 1208-IRH; Dwg-D151;
ID-SCIF34FT40-20	

General Description: Windlass Elhyd.	2.750 in dlk 45225 lbs. 36 FPM
CID/APL Number(s): 630150007	Federal Stock Number: None *(1)
Equipment Identification Code: KG02	
Technical Manual: None	
	Basic Data
Ship Population: AFS 1. 2. 3	Equip. Population/Ship: 1 ea/AFS
Fauin Population in Data Bass.	Equip. Population/Ship: 1 ea/AFS
Utilization Footom: S: A = 0.008	Data Assessment Period: $7/1/67 - 6/30/6$ B = 0.0, C = 0.0
Total Equip Operating Time (1)	160.0
Total Number of: Failures (CM):	Corrective Maintenance Events (CM): 7
Total CM _f Repair Man-Hours: 239	Total CM Repair Man-Hours:275
Maintenance Factors: 0.67	
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82	Mean Time Between Corrective Maintenance MTBCM: 23
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82	Mean Time Between Corrective Maintenance MTBCM: 23 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26	Mean Time Between Corrective Maintenance MTBCM: 23 90% Confidence Interval Upper Limit: 50
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26 Mainta	Mean Time Between Corrective Maintenance MTBCM: 23 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 79.7	Mean Time Between Corrective Maintenance MTBCM: 23 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 79.7 MCMM _f : 119.5	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 79.7 MCMM _f : 119.5 Max. Observed MH: 175	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 79.7 MCMM _f : 119.5 Max. Observed MH: 175 MCMM _f : 119.5	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 79.7 MCMM _f : 119.5 Max. Observed MH: 175	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 82 90% Confidence Interval Upper Limit: 462 Lower Limit: 26 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 79.7 MCMM _f : 119.5 Max. Observed MH: 175 MCMM _f : 119.5	MCMM _{cm} :

Equipment Identification

Noun Name: ___ Windlass, Vert. Shaft, Electric

General Description: Windlass, Elec.	2. in dlk 2540 lbs. 36 FPM
CID/APL Number(s): 630180041	Federal Stock Number: 283950-376-1584
	and the second s
Technical Manual: 326-0247	
Manufacturer: 29899 Hyde Corp.	
	Basic Data
LST 1156,1157,1159,1161,1	162,1163,
	Equip. Population/Ship: 1 ea/LST
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S. R = 0.012;	B = 0.0, C = 0.0 726
	Corrective Maintenance Events (CM):31
Total CM _f Repair Man-Hours: 222	Total CM Repair Man-Hours:1850
Maintenance Factors:0.67	,
1	Reliability Indices
Mary Street Constitution Constitution	Final Market Brown and American State of the Company of the Compan
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance	
MTBCM _f : 103	MTBCM:23
90% Confidence Interval	90% Confidence Interval
Upper Limit: 221	Upper Limit: 32
Lower Limit: 55	Lower Limit:17
	on one constant
Ma	intainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	1920 40 40 90 90
MTTR _f : 21.1	MTTR _{cm} :39.8
MCMM _f : 15.0	MCMM _{cm} : 8.0
Max. Observed MH:117	Max. Observed MH: 505
MCMM _f : 31.7	MCMM _{cm} : 59.7
Variance:1720	Variance: 14913
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS:	

General Description: Windlass Elec. 1.	
CID/APL Number(s): 630180042	
Equipment Identification Code: KGO1	
Technical Manual: 326-0274	
Manufacturer: 29899 Hyde Corp.	The second se
В	Basic Data
Ship Population: DD 941, 942; DDG 16, 17, 3.	Equip. Population/Ship: 1 ea/DD; DDG
Equip. Population in Data Base:5	Data Assessment Period: 7/1/67 - 6/30,
Utilization Factors: S: A = 0.008, H	B = 0.0, C = 0.0
Total Equip. Operating Time (hours):	265
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM):15
Total CMc Repair Man-Hours: 5	Total CM Repair Man-Hours:83
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132	Mean Time Between Corrective Maintenance MTBCM: 17
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132 90% Confidence Interval . Upper Limit: 746	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:29
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132 90% Confidence Interval . Upper Limit: 746 Lower Limit: 42	Mean Time Between Corrective Maintenance MTBCM: 17 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132 90% Confidence Interval . Upper Limit: 746 Lower Limit: 42	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:29 Lower Limit:11
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 132 90% Confidence Interval . Upper Limit: 746 Lower Limit: 42 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 132 90% Confidence Interval Upper Limit: 746 Lower Limit: 42 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.7	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 132 90% Confidence Interval Upper Limit: 746 Lower Limit: 42 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 1.7 MCMMf: 2.5	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$:	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 132 90% Confidence Interval Upper Limit: 746 Lower Limit: 42 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 1.7 MCMMf: 2.5	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 132 90% Confidence Interval . Upper Limit: 746 Lower Limit: 42 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 1.7 MCMMf: 2.5 Max. Observed MH: 4 MCMMf: 2.5	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Windlass, Vert. Shaft	
General Description: Windlass Elec. 1.	
	Federal Stock Number: None *(1)
	oleol ramedaati teaqui
	A STATE OF THE STA
Manufacturer: 29899 Hyde Corp.	A SECTION OF THE PROPERTY OF T
	Basic Data
Ship Population: DE 1021, 1022	Equip. Population/Ship: 1 ea/DE
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.004,	Data Assessment Period: $7/1/67 - 6/30/69$ B = 0.0, C = 0.0
Total Equip. Operating Time (hours):	46
Total Number of: Failures (CM _f): 4	Corrective Maintenance Events (CM):4
	Total CM Repair Man-Hours: 19
Maintenance Factors:	0.67
Mean Time Between Failure	liability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	liability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure	liability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 11
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 11 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11 90% Confidence Interval Upper Limit: 5	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:34
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit: Lower Limit:3\frac{1}{4}	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:34
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :1 90% Confidence Interval Upper Limit:5 Lower Limit:34 Main	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:34 Lower Limit:5 tainability Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 11 90% Confidence Interval Upper Limit: 5 Lower Limit: 34 Main Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:34 Lower Limit:5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit: Lower Limit:34	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit: Lower Limit: Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :3.1	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:5 Lower Limit:3\frac{1}{4} Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :3.1 MCMM _f :3.5 Max. Observed MH:1	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:5 Lower Limit:34 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :3.1 MCMM _f :3.5 Max. Observed MH:11	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:5 Lower Limit:3\frac{1}{4} Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :3.1 MCMM _f :3.5 Max. Observed MH:11 MCMM _f :4.6	Mean Time Between Corrective Maintenance MTBCM:

General Description: Windlass Elhyd	2.25 in dlk 22112 lbs. 3	6FPM
CID/APL Number(s): 630180046	Federal Stock Number: None	*(1)
Equipment Identification Code: KGC	02	THE JAMES SEE MAY
Technical Manual: 326-0285		ADDRESS (ELLINO) - JOHEN
Manufacturer: 29899 Hyde Corp.		Samuel Hallington, 1824)
	Basic Data	
Ship Population: LST 1173,1174,1175,		
Equip. Population in Data Base: 4	Data Assessment Period: 7	/1/67 - 6/30/0
Utilization Factors: S: A = 0.012,		moles ead
Total Equip. Operating Time (hours): Total Number of: Failures (CM _f):2	Competing Maintenance Provide	cm. 7
Total CM _f Repair Man-Hours: 8	Total CM Repair Man-Hours:	51
Maintenance Factors:0.67		and the second
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Reliability Indices Mean Time Between Corrective I	Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Mean Time Between Corrective I	Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106	Mean Time Between Corrective I	Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval	Mean Time Between Corrective I MTBCM: 30 90% Confidence Interval	mer artific been to
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599	Mean Time Between Corrective I MTBCM:	Aude Caverin
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599	Mean Time Between Corrective I MTBCM: 30 90% Confidence Interval	Aude Caverin
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599 Lower Limit: 3 ¹ 4	Mean Time Between Corrective I MTBCM:	The Audit Cavalia
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599 Lower Limit: 3 ¹ 4 Mai	Mean Time Between Corrective I MTBCM: 30 90% Confidence Interval Upper Limit: 6 Lower Limit: 1	5 6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599 Lower Limit: 3 ¹ 4 Maintenance — (Forced Shutdown	Mean Time Between Corrective I MTBCM:30 90% Confidence Interval Upper Limit:6 Lower Limit:1	5 6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599 Lower Limit: 34 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective In the Man Time Between Corrective In the Manager State MTBCM:	5 6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599 Lower Limit: 3 ¹ Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.8	Mean Time Between Corrective Interval 90% Confidence Interval Upper Limit:6 Lower Limit:1 intainability Indices Corrective Maintenance — (All E	5 6
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599 Lower Limit: 3 ¹ 4 Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.8 MCMM _f : 4.2	Mean Time Between Corrective In the set of t	5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599 Lower Limit: 3 ¹ Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.8 MCMM _f : 4.2 Max. Observed MH: 5	Mean Time Between Corrective Interval 90% Confidence Interval Upper Limit:6 Lower Limit:1 intainability Indices Corrective Maintenance — (All E MTTR _{cm} :5_5 MCMM _{cm} :5_2 Max. Observed MH:30	5 6 vents)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 106 90% Confidence Interval Upper Limit: 599 Lower Limit: 3 ¹ / ₄ Mai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.8 MCMM _f : 4.2 Max. Observed MH: 5 MCMM _f : 4.2	Mean Time Between Corrective Interval 90% Confidence Interval Upper Limit:6 Lower Limit:1 intainability Indices Corrective Maintenance — (All E MTTR _{cm} :5.5	5 6 vents)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective In the set of t	5 6 vents)

Noun Name: Windlass, Vert. Shaft,	
General Description: Windlass, Elhyd 1.6	25 in dlk 17506 lbs. 36FPM
	_ Federal Stock Number: None *(1)
Equipment Identification Code: KG	02
Technical Manual: 326-0303	A CONTRACTOR OF THE PROPERTY O
Manufacturer: 29899 Hyde Corp.	A CONTRACT OF THE SECOND SECON
В	asic Data
Ship Population: DLG 8, 14;	Equip. Population/Ship: 1 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.008, B	= 0.0, C = 0.0
Total Equip. Operating Time (hours):	109
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):1
Total CMe Repair Man-Hours:8	Total CM Repair Man-Hours:8
Maintenance Factors: 0.67	TOTAL SECTION OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	groundment orders on restaining more).
(Forced Shutdown Corrective Maintenance) MTBCM _f : 109	MTBCM: 109
(Forced Shutdown Corrective Maintenance) MTBCM _f : 109 90% Confidence Interval	MTBCM: 109 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 109 90% Confidence Interval Upper Limit: 2125	MTBCM: 109 90% Confidence Interval Upper Limit: 2125
(Forced Shutdown Corrective Maintenance) MTBCM _f : 109 90% Confidence Interval	MTBCM: 109 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 109 90% Confidence Interval Upper Limit: 2125 Lower Limit: 23	MTBCM: 109 90% Confidence Interval Upper Limit: 2125
(Forced Shutdown Corrective Maintenance) MTBCM _f : 109 90% Confidence Interval Upper Limit: 2125 Lower Limit: 23 Maintai	MTBCM: 109 90% Confidence Interval Upper Limit: 2125 Lower Limit: 23 inability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 109 90% Confidence Interval Upper Limit: 2125 Lower Limit: 23 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.3	MTBCM: 109 90% Confidence Interval Upper Limit: 2125 Lower Limit: 23 inability Indices Corrective Maintenance — (All Events) MTTRcm: 5-3
(Forced Shutdown Corrective Maintenance) MTBCM _f : 109 90% Confidence Interval Upper Limit: 2125 Lower Limit: 23 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM: 109 90% Confidence Interval Upper Limit: 2125 Lower Limit: 23 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5-3 MCMM _{cm} : 0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCMf: 109 90% Confidence Interval Upper Limit: 2125 Lower Limit: 23 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 5.3 MCMMf: 0 Max. Observed MH: 0	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

	2.75 in dlk 49725 lbs. 36FPM
	Federal Stock Number: None *(1)
Equipment Identification Code: KG02	COST Section Committee
Technical Manual: 0926-002-6010	Google Speed to
Manufacturer: 29899 Hyde Corp.	party at \$1 party and \$1.
	Basic Data
Ship Population: LPD 1, 2, 3, 4, 5, 6	Equip. Population/Ship: 1 ea/LPD
	Data Assessment Period: 7/1/67 - 6/30
	B = 0.0, C = 0.0
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM):10
	Total CM Repair Man-Hours: 1052
Maintenance Factors: 0.67	Total On Repair Man-Hours.
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 243	Mean Time Between Corrective Maintenance MTBCM: 48
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 243 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 243 90% Confidence Interval Upper Limit: 1370	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval Upper Limit: 90
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 243 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval Upper Limit: 90
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 243 90% Confidence Interval Upper Limit: 1370 Lower Limit: 77 Main	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval Upper Limit: 90 Lower Limit: 29
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval Upper Limit: 90 Lower Limit: 29
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 243 90% Confidence Interval Upper Limit: 1370 Lower Limit: 77 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval Upper Limit: 90 Lower Limit: 29 Itainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval Upper Limit: 90 Lower Limit: 29 Itainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval Upper Limit: 90 Lower Limit: 29 Itainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 70.1 MCMM _{cm} : 1.3 Max. Observed MH: 991
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval Upper Limit: 90 Lower Limit: 29 Itainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 70.1 MCMM _{cm} : 1.3 Max. Observed MH: 991
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 48 90% Confidence Interval

Noun Name: Windlass Vert. Shaft, El	ectric
General Description: Windlass 1.500 in	dlk 15100 lbs. 36FPM
CID/APL Number(s): 630180062	Federal Stock Number: None *(1)
Equipment Identification Code: KGO1	where make Missish Research and
Technical Manual: none	Tedated Magazin and Statement Committee
Manufacturer: 29899 Hyde Corp.	Amolianus 1985 - Amolianus India
	c Data
	Equip. Population/Ship: 1 ea/DEG
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.006, B = 0	0.0, C = 0.0
Total Equip. Operating Time (hours):	50
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):
Total CMe Repair Man-Hours:	Total CM Repair Man-Hours:38
	TO U.S. LANGE AND THE SECOND S
MTBCM _f :	
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : MCMM _f :	Corrective Maintenance — (All Events) MTTR _{cm} : 6.3 MCMM _{cm} : 8.6
Max. Observed MH:	Max. Observed MH: 18.5
MCMM _f :O	MCMM _{cm} : 9.4
Variance:O	Variance: 46.4
Indicated Distribution(s): Exponential	Normal Log Normal
** The highest calculated operate study is 29 hours.	ing time for equipment in this

	1.125 in dlk 9498 lbs. 36FPM
	Federal Stock Number: None *(1)
	difference (Note that the little and
Technical Manual:326-0284	
Manufacturer: 16603 Western Gear	Corp. Heavy Machinery Div.
	Basic Data
Ship Population: DE 1027.1028.1029.	1033 *(2) Equip. Population/Ship: 1 ea/DE
	Data Assessment Period: 7/1/67 - 6/30
Utilization Factors: S: A = 0.004	B = 0.0, C = 0.0
Total Equip. Operating Time (hours):	
Total Number of: Failures (CMs): 3	Corrective Maintenance Events (CM): 11
	18 (18 18 18 18 18 18 18 18 18 18 18 18 18 1
-	Total CM Repair Man-Hours: 432
Maintenance Factors:0.6) (
(Forced Shutdown Corrective Maintenan	
20	10
MTBCM _f :38	MTBCM: 10
90% Confidence Interval	90% Confidence Interval
90% Confidence Interval Upper Limit: 142	90% Confidence Interval Upper Limit: 19
90% Confidence Interval	90% Confidence Interval
90% Confidence Interval Upper Limit: 142 Lower Limit: 15	90% Confidence Interval Upper Limit:6
90% Confidence Interval Upper Limit: 142 Lower Limit: 15	90% Confidence Interval Upper Limit: 19
90% Confidence Interval Upper Limit: 142 Lower Limit: 15 M Corrective Maintenance — (Forced Shutdown	90% Confidence Interval Upper Limit:6
90% Confidence Interval Upper Limit: 142 Lower Limit: 15 M Corrective Maintenance — (Forced Shutdown Failure Events Only)	90% Confidence Interval Upper Limit:6 Lower Limit:6 Maintainability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 142 Lower Limit: 15 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR: 2.6	90% Confidence Interval Upper Limit: 19 Lower Limit: 6 Maintainability Indices Corrective Maintenance — (All Events)
90% Confidence Interval Upper Limit: 142 Lower Limit: 15 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.6 MCMM _f : 2.0	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 142 Lower Limit: 15 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.6 MCMM _f : 2.0 Max. Observed MH: 8	90% Confidence Interval Upper Limit:6 Lower Limit:6 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :5.0 Max. Observed MH:366
90% Confidence Interval Upper Limit: 142 Lower Limit: 15 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.6 MCMM _f : 2.0 Max. Observed MH: 8 MCMM _f : 3.9	90% Confidence Interval Upper Limit:
90% Confidence Interval Upper Limit: 142 Lower Limit: 15 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.6 MCMM _f : 2.0 Max. Observed MH: 8	90% Confidence Interval Upper Limit:6 Lower Limit:6 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :5.0 Max. Observed MH:366
90% Confidence Interval Upper Limit: 142 Lower Limit: 15 M Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.6 MCMM _f : 2.0 Max. Observed MH: 8 MCMM _f : 3.9	90% Confidence Interval Upper Limit:

Noun Name: Windlass, Vert. Shaft	Elec./Hyd.
General Description: Windlass Elhyd 2.	.625 in dlk 48413 lbs. 30FPM
	Federal Stock Number:None *(1)
Equipment Identification Code: KG02	
Technical Manual: 326-0286	
Manufacturer: 16603 Western Gear Co	orp. Heavy Machinery Div.
	Basic Data
Ship Population: AE 21, 22, 23, 25;	Equip. Population/Ship: 1 ea/AE
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A = 0.009, B	= 0.0, C = 0.0
Total Equip. Operating Time (hours):	233
	Corrective Maintenance Events (CM):7
Total CM _f Repair Man-Hours: 2	Total CM Repair Man-Hours:23
0.67	
Reli	ability Indices
Reli Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :233	Mean Time Between Corrective Maintenance MTBCM: 33
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 233 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 33 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :233 90% Confidence Interval Upper Limit:4542	Mean Time Between Corrective Maintenance MTBCM:33 90% Confidence Interval Upper Limit:71
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 233 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 33 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 233 90% Confidence Interval Upper Limit: 4542 Lower Limit: 49	Mean Time Between Corrective Maintenance MTBCM:33 90% Confidence Interval Upper Limit:71
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :233 90% Confidence Interval Upper Limit:4542 Lower Limit:49 Mainta	Mean Time Between Corrective Maintenance MTBCM: 33 90% Confidence Interval Upper Limit: 71 Lower Limit: 18
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 233 90% Confidence Interval Upper Limit: 4542 Lower Limit: 49	Mean Time Between Corrective Maintenance MTBCM: 33 90% Confidence Interval Upper Limit: 71 Lower Limit: 18
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 233 90% Confidence Interval Upper Limit: 4542 Lower Limit: 49 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:33 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :233 90% Confidence Interval Upper Limit:4542 Lower Limit:49 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13	Mean Time Between Corrective Maintenance MTBCM:33 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :233 90% Confidence Interval Upper Limit:4542 Lower Limit:49 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13	Mean Time Between Corrective Maintenance MTBCM:33 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :233 90% Confidence Interval Upper Limit:4542 Lower Limit:49 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13 MCMM _f : Max. Observed MH:0	Mean Time Between Corrective Maintenance MTBCM:33 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:33 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :233 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:33

General Description: Windlass, Elhyd	2. in dlk 10000 lbs.	30F'PM
CID/APL Number(s): 630250011		
Equipment Identification Code: KG02		
Technical Manual: None		Caracial Decrease
Manufacturer: 16603 Western Gear Cor	p. Heavy Machinery Div.	448000 4340
	Basic Data	
Ship Population: DLG 19, 22, 23	Equip. Population/Ship:	ea/DLG
Equip. Population in Data Base:3	Data Assessment Period: 7	/1/67 - 6/30
Utilization Factors: S: A = 0.008, B	= 0.0, C = 0.0	at malately seed a con-
Total Equip. Operating Time (hours):	145	Added agrees
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):5
Total CM _f Repair Man-Hours:		
Maintenance Factors: 0.67		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMe: 209**	Mean Time Between Corrective I	Maintenance
	MTBCM:29	Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 209** 90% Confidence Interval	MTBCM: 29 90% Confidence Interval	novemble for IT are observed there is a final second of the second of th
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 29 90% Confidence Interval Upper Limit: 7	novemble for IT are observed there is a final second of the second of th
(Forced Shutdown Corrective Maintenance) MTBCM _f : 209** 90% Confidence Interval	MTBCM: 29 90% Confidence Interval Upper Limit: 7	4 6 16 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
(Forced Shutdown Corrective Maintenance) MTBCM _f :90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 29 90% Confidence Interval Upper Limit: 7	4 6 16 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 29 90% Confidence Interval Upper Limit: 7 Lower Limit: 1	<u>4</u>
(Forced Shutdown Corrective Maintenance) MTBCM _f :90% Confidence Interval Upper Limit: Lower Limit:	MTBCM: 29 90% Confidence Interval Upper Limit: 7 Lower Limit: 1 ninability Indices Corrective Maintenance — (All E	<u>4</u>
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 29 90% Confidence Interval Upper Limit: 7 Lower Limit: 1 ninability Indices Corrective Maintenance — (All E	<u>4</u>
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 29 90% Confidence Interval Upper Limit: 7 Lower Limit: 1 Ainability Indices Corrective Maintenance — (All E MTTR _{cm} : 5.6 MCMM _{cm} : 2.0	4 4 vents)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	90% Confidence Interval Upper Limit:	4 4 vents)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 29 90% Confidence Interval Upper Limit: 7 Lower Limit: 1 Lower Limit: 1 Ainability Indices Corrective Maintenance — (All E MTTR _{cm} : 5.6 MCMM _{cm} : 2.0 Max. Observed MH: 30 MCMM _{cm} : 8.5	4 4 vents)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	90% Confidence Interval Upper Limit:	4 4 vents)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 29 90% Confidence Interval Upper Limit: 7 Lower Limit: 1 Lower Limit: 1 Ainability Indices Corrective Maintenance — (All E MTTR _{cm} : 5.6 MCMM _{cm} : 2.0 Max. Observed MH: 30 MCMM _{cm} : 8.5	4 4 vents)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	90% Confidence Interval Upper Limit:7 Lower Limit:1 ainability Indices Corrective Maintenance — (All E MTTR _{cm} :5.6 MCMM _{cm} :	4 vents)

Equipment Identification

Noun Name: Windlass Vert. Shaft, Elec/Hyd

tilization Factors: S: A = 0.008, B = 0. otal Equip. Operating Time (hours): otal Number of: Failures (CMf): 0 otal CMf Repair Man-Hours: 0 faintenance Factors: 0.67 Reliability fean Time Between Failure (Forced Shutdown Corrective Maintenance)	Heavy Machinery Div. Data Equip. Population/Ship: 1 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69 0, C = 0.0 237 Corrective Maintenance Events (CM): 3 Total CM Repair Man-Hours: 7
Basic In the population: DLG 29, 30, 31, 33 Population: DLG 29, 30, 31, 33	Heavy Machinery Div. Data Equip. Population/Ship: 1 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69 O, C = 0.0 237 Corrective Maintenance Events (CM): 3 Total CM Repair Man-Hours: 7
Basic In Population: DLG 29, 30, 31, 33 quip. Population in Data Base: 4 tilization Factors: S: A = 0.008, B = 0.001 otal Equip. Operating Time (hours): 0 otal Number of: Failures (CMf): 0 otal CMf Repair Man-Hours: 0 faintenance Factors: 0.67 Reliability fean Time Between Failure (Forced Shutdown Corrective Maintenance)	Heavy Machinery Div. Data Equip. Population/Ship: 1 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69 0, C = 0.0 237 Corrective Maintenance Events (CM): 3 Total CM Repair Man-Hours: 7
Basic Inip Population: DLG 29, 30, 31, 33 quip. Population in Data Base: 4 tilization Factors: S: A = 0.008, B = 0. otal Equip. Operating Time (hours): otal Number of: Failures (CMf): 0 otal CMf Repair Man-Hours: 0 faintenance Factors: 0.67 Reliability fean Time Between Failure (Forced Shutdown Corrective Maintenance)	Data Equip. Population/Ship:
nip Population: DLG 29, 30, 31, 33 quip. Population in Data Base: 4 tilization Factors: S: A = 0.008, B = 0. otal Equip. Operating Time (hours): otal Number of: Failures (CMf): 0 total CMf Repair Man-Hours: 0 faintenance Factors: 0.67 Reliability The Corrective Maintenance of the Corrective Maintenance	Equip. Population/Ship: 1 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69 0, C = 0.0 237 Corrective Maintenance Events (CM): 3 Total CM Repair Man-Hours: 7
nip Population: DLG 29, 30, 31, 33 quip. Population in Data Base: 4 tilization Factors: S: A = 0.008, B = 0. otal Equip. Operating Time (hours): otal Number of: Failures (CMf): 0 total CMf Repair Man-Hours: 0 faintenance Factors: 0.67 Reliability The Corrective Maintenance of the Corrective Maintenance	Equip. Population/Ship: 1 ea/DLG Data Assessment Period: 7/1/67 - 6/30/69 0, C = 0.0 237 Corrective Maintenance Events (CM): 3 Total CM Repair Man-Hours: 7
quip. Population in Data Base:4 tilization Factors:S: A = 0.008, B = 0. otal Equip. Operating Time (hours): otal Number of: Failures (CMf):0 otal CMf Repair Man-Hours:0 faintenance Factors:0 Reliability fean Time Between Failure (Forced Shutdown Corrective Maintenance)	Data Assessment Period: 7/1/67 - 6/30/69 0, C = 0.0 237 Corrective Maintenance Events (CM):3 Total CM Repair Man-Hours:7
tilization Factors: S: A = 0.008, B = 0. otal Equip. Operating Time (hours): otal Number of: Failures (CMf): 0 otal CMf Repair Man-Hours: 0 faintenance Factors: 0.67 Reliability fean Time Between Failure (Forced Shutdown Corrective Maintenance)	237 Corrective Maintenance Events (CM):
otal Equip. Operating Time (hours): otal Number of: Failures (CMf): otal CMf Repair Man-Hours: aintenance Factors: Reliability (Forced Shutdown Corrective Maintenance)	237 Corrective Maintenance Events (CM):3 Total CM Repair Man-Hours:7
otal Number of: Failures (CM _f): 0 (Otal CM _f Repair Man-Hours: 0 (Otal CM _f Repair Man-Hou	Corrective Maintenance Events (CM):3
cotal CM _f Repair Man-Hours:	Total CM Repair Man-Hours:7
Reliability Time Between Failure (Forced Shutdown Corrective Maintenance)	
Reliability Time Between Failure (Forced Shutdown Corrective Maintenance)	
Reliability Tean Time Between Failure (Forced Shutdown Corrective Maintenance)	
ean Time Between Failure (Forced Shutdown Corrective Maintenance)	Indices
(Forced Shutdown Corrective Maintenance)	
2/10**	Mean Time Between Corrective Maintenance
TBCM _f : 342**	MTBCM:79
90% Confidence Interval	90% Confidence Interval
Upper Limit:	Upper Limit: 290
Lower Limit:	Lower Limit: 31
Maintainabil	lity Indices
(MONEY CP.) — remandation organisms	
orrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	1.6
TTR _f : O	$ \frac{\text{MTTR}_{\text{cm}}}{\text{MCMM}_{\text{cm}}} = \frac{1.6}{1.2} $
CMM _f :O	MCMM _{cm} :
Max. Observed MH:O	Max. Observed MH:6
CMM _f :O	Wariance: 2.4
Variance:	Variance:
ndicated Distribution(s): Exponential	Normal Log Normal
REMARKS: *(1) ID-MDL-WAHEV-2A; Dwg-	N-100784-1;
** The highest calculated operating	time for equipment in this
study is 68 hours.	CIME TO EQUIDMENT IN CITIS

CID/API Number(s), 6202E0017	2.375 in dlk 26153 lbs. 30FPM Federal Stock Number: None *(1)
Equipment Identification Code: KG02	Federal Stock Number:
Technical Manual: 0926-001-5000	
	orp. Heavy Machinery Div.
Manufacturer. 1990) wes out in dear oc	J. Hodry Fidelithory Dav.
	Basic Data
	Equip. Population/Ship: 1 ea/A0
	Data Assessment Period: 7/1/67 - 6/30
	= 0.0, C = 0.0
Total Equip. Operating Time (hours):	107
	Corrective Maintenance Events (CM):9
Total CM _f Repair Man-Hours: 60	Total CM Repair Man-Hours:90
Maintenance Factors: 0.67	
Reli Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62 90% Confidence Interval Upper Limit: 229	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:40
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62 90% Confidence Interval Upper Limit: 229 Lower Limit: 24	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:40 Lower Limit:12
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62 90% Confidence Interval Upper Limit: 229 Lower Limit: 24	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:29 Lower Limit:24 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.2	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:29 Lower Limit:24 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.2 MCMM _f :7.1	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

	75 in dlk 2800 lbs. 24FPM
	Federal Stock Number: None *(1)
anufacturer: 30177 Ideal Windlass	s Co.
	Basic Data
hip Population: MSC 198,199,205,207,2	208, 209 Equip. Population/Ship: 1 ea/ MSC
	Data Assessment Period: 7/1/67 - 6/30/69
Itilization Factors: S: A = 0.025, B	= 0.0, C = 0.0
otal Equip. Operating Time (hours): 89	3
Cotal Number of: Failures (CM _f): 5	Corrective Maintenance Events (CM):
	Total CM Repair Man-Hours:307
Maintenance Factors:	67
Reli	iability Indices
	Experies and a second control of the
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 178	Mean Time Between Corrective Maintenance MTBCM: 89
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 178 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 178 90% Confidence Interval Upper Limit: 453	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 165
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 178 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:453 Lower Limit:85	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 165
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 178 90% Confidence Interval Upper Limit: 453 Lower Limit: 85 Maint	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 165 Lower Limit: 53
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:178 90% Confidence Interval Upper Limit:453 Lower Limit:85 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 165 Lower Limit: 53 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 165 Lower Limit: 53 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 165 Lower Limit: 53 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 20.5 MCMM _{cm} : 12.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 165 Lower Limit: 53 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 20.5 MC.MM _{cm} : 12.0 Max. Observed MH: 150
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:89 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 165 Lower Limit: 53 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 20.5 MC.MM _{cm} : 12.0 Max. Observed MH: 150
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:89 90% Confidence Interval

CID/APL Number(s): 630460009	125 in dlk 10000 lbs. 54FPM Federal Stock Number: None *(1)
	1945
	AND CONTRACTOR OF THE PROPERTY
Manufacturer: 30177 Ideal Windlass	Co.
В	Basic Data
Ship Population: MSO 488,490,508,521;	Equip. Population/Ship: 1 ea/MSO
Equip. Population in Data Base: 4	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A = 0.017, B	
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):15
Total CM _f Repair Man-Hours: 83	Total CM Repair Man-Hours:128
Maintenance Factors: 0.67	SWI COLD STREET SWITT SERVICE AND SERVICE
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 27
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 69 90% Confidence Interval Upper Limit: 159 Lower Limit: 35	Mean Time Between Corrective Maintenance MTBCM: 27 90% Confidence Interval Upper Limit: 45
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 69 90% Confidence Interval Upper Limit: 159 Lower Limit: 35	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Rederal Stock Number: 283950-214-0256	Vert. Shaft, Electric	
Rechnical Manual: 326-0042 Manufacturer: 03950 Various Basic Data	less Elec. 1.125 in dlk 11010 lbs. 36FPM	
Basic Data	850001 Federal Stock Number: 2S3950-214-0255	
Basic Data	:KG01	
ATF 96, 98, 100, 101, 103, 105, 107, 114, Ship Population:159, 161, 162, 163;	042	
ATF 96, 98, 100, 101, 103, 105, 107, 114, Ship Population:159, 161, 162, 163;	arious	
Equip. Population in Data Base: 12	101,103,105,107,114,	
Utilization Factors:S: A = 0.027, B = 0.0, C = 0.0 Total Equip. Operating Time (hours):1563 Total Number of: Failures (CMf):14		0/6
Total Equip. Operating Time (hours): 14		
Total Number of: Failures (CM _f): 14		
Total CM _f Repair Man-Hours: 244 Total CM Repair Man-Hours: 611 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 111	(CMa): 14 Corrective Maintenance Events (CM): 42	
Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	O 67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :		
90% Confidence Interval Upper Limit: 185 Lower Limit: 71 Upper Limit: 49 Lower Limit: 29 Maintainability Indices	ctive Maintenance)	
Upper Limit:		
Lower Limit:		
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.6 MCMM _f : 3.4 Max. Observed MH: 195 MCMM _f : 17.4 Variance: 2621 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.7 MCMM _{cm} : 3.8 Max. Observed MH: 195 MCMM _{cm} : 14.6 Variance: 1260	71 Lower Limit: 29	
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.6 MCMM _f : 3.4 Max. Observed MH: 195 MCMM _f : 17.4 Variance: 2621 Corrective Maintenance — (All Events) MTTR _{cm} : 9.7 MCMM _{cm} : 3.8 Max. Observed MH: 195 MCMM _{cm} : 14.6 Variance: 1260		
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Maintainability Indices	
Failure Events Only) MTTR _f : 11.6 MCMM _f : 3.4 Max. Observed MH: 195 MCMM _f : 17.4 Variance: 2621 Variance: 1260 MTTR _{cm} : 9.7 MCMM _{cm} : 3.8 MCMM _{cm} : 195 MCMM _{cm} : 14.6 Variance: 1260	Somethic State of the second s	
MCMM _f : 3.4 Max. Observed MH: 195 MCMM _f : 17.4 Variance: 2621 Variance: 1260 MCMM _{cm} : 3.8 MCMM _{cm} : 3.8 MCMM _{cm} : 195 MCMM _{cm} : 14.6 Variance: 1260	ced Shutdown Corrective Maintenance — (All Events)	
MCMM _f : 3.4 Max. Observed MH: 195 MCMM _f : 17.4 Variance: 2621 Variance: 1260 MCMM _{cm} : 3.8 MCMM _{cm} : 3.8 MCMM _{cm} : 195 MCMM _{cm} : 14.6 Variance: 1260	MTTR _{cm} : 9.7	
Max. Observed MH: 195 MCMM _f : 17.4 Variance: 2621 Variance: 1260 Max. Observed MH: 195 MCMM _{cm} : 14.6 Variance: 1260	MCMM _{cm} :	
Variance: 2621 Variance: 1260	195 Max. Observed MH: 195	
Variance: 2621 Variance: 1260	MCMM _{cm} :14.6	
Indicated Distribution (s). Proposition	Variance: 1260	
Indicated Distribution(s): Exponential Normal Log Normal	xponential Normal Log Normal _	
*REMARKS:	010142	

General Description: Windlass, Elhyd 2	2.75 in dlk 606001bs. 36FPM
	Federal Stock Number: None *(1)
Equipment Identification Code: KG02	odani
Technical Manual: 326-0283	
Manufacturer: 65177 Patterson Pump I	Div. of Patterson Industries Inc.
	Basic Data
Ship Population: LSD 28, 29, 30, 31, 32, 33,	34,35; Equip. Population/Ship: 1 ea/LSD
	Data Assessment Period: 7/1/67 - 6/30,
Utilization Factors: S: A = 0.011, B	= 0.0, C = 0.0
Total Equip. Operating Time (hours):	479
Total Number of: Failures (CM _f):7	Corrective Maintenance Events (CM):37
Total CM _f Repair Man-Hours: 2627	Total CM Repair Man-Hours: 5203
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	ability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure	Shell growth data
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 68 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 12 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 68 90% Confidence Interval Upper Limit: 146	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:17
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 68 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 12 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 68 90% Confidence Interval Upper Limit: 146 Lower Limit: 36	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:17
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 68 90% Confidence Interval Upper Limit: 146 Lower Limit: 36	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:17 Lower Limit:10
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 68 90% Confidence Interval Upper Limit: 146 Lower Limit: 36 Mainta	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:146 Lower Limit:36 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :250.2	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :68 90% Confidence Interval Upper Limit:146 Lower Limit:36 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :250.2 MCMM _f :12.0	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Windlass, Vert. Shaft	Elec/Hyd
General Description: Windlass Elhyd 4	
CID/APL Number(s): 63090009	
Equipment Identification Code:K	
Technical Manual: 326-0283	
	np Div. of Patterson Industries Inc.
wandacturer.	p privile recognized r
	Basic Data
Ship Population: CVA 61, 62, 63, 64,	66; Equip. Population/Ship: 1 ea/CVA
	Data Assessment Period: 7/1/67 - 6/30/
Utilization Factors: S: A = 0.006, B	S = 0.0, C = 0.0
Total Equip. Operating Time (hours):	433
	Corrective Maintenance Events (CM):33
Total CM. Renair Man-Hours: 11	Total CM Repair Man-Hours: 762
Maintenance Factors:	67
Mean Time Between Failure	liability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1/4/4 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 13 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:18
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1/4/4 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 13 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530 Lower Limit: 56	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:18
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530 Lower Limit: 56	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:18 Lower Limit:10
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530 Lower Limit: 556 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530 Lower Limit: 56 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.4	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530 Lower Limit: 550 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.4 MCMM _f : 3.0	MTBCM: 13 90% Confidence Interval Upper Limit: 18 Lower Limit: 10 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.4 MCMM _{cm} : 2.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530 Lower Limit: 56 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.4 MCMM _f : 3.0 Max. Observed MH: 6	MTBCM: 13 90% Confidence Interval Upper Limit: 18 Lower Limit: 10 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.4 MCMM _{cm} : 2.0 Max. Observed MH: 200
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530 Lower Limit: 550 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.4 MCMM _f : 3.0 Max. Observed MH: 6 MCMM _f : 3.7	MCMM _{cm} :
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 144 90% Confidence Interval Upper Limit: 530 Lower Limit: 56 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.4 MCMM _f : 3.0 Max. Observed MH: 6	MTBCM: 13 90% Confidence Interval Upper Limit: 18 Lower Limit: 10 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.4 MCMM _{cm} : 2.0 Max. Observed MH: 200

General Description: Williams, Elec.	75 in dlk 4230 lbs. 34FPM
CID/APL Number(s): 631020001	Federal Stock Number: None *(1)
Equipment Identification Code:KG06	
Technical Manual: 326-0316	
Manufacturer: 82538 Tacoma Boat Bui	lding Co. Inc.
	Basic Data
Wag 202 222	a la MSC
Ship Population: MSC 289, 290;	Equip. Population/Ship: 1 ea/MSC
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/3
Utilization Factors: S: A = 0.025, B	= 0.0, C = 0.0
Total Equip. Operating Time (hours):	Competing Maintenance Fronts (CM):
	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:3
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance MTBCM: 277
(Forced Shutdown Corrective Maintenance) MTBCM _f : 277 90% Confidence Interval	MTBCM: 277 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 277 90% Confidence Interval Upper Limit: 5400	MTBCM: 277 90% Confidence Interval Upper Limit: 5400
(Forced Shutdown Corrective Maintenance) MTBCM _f : 277 90% Confidence Interval	MTBCM: 277 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 277 90% Confidence Interval Upper Limit: 5400
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 277 90% Confidence Interval Upper Limit: 5400 Lower Limit: 58
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 277 90% Confidence Interval Upper Limit: 5400 Lower Limit: 58 ainsbility Indices Corrective Maintenance — (All Events) MTTRcm: 2.1
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

CID/APL Number(s): _ 664010005	539 SED 900HP 700RPM CCW Federal Stock Number: 282815-132-8675
Technical Manual: 341-5465	
Manufacturer: 02451 Alco Products	
	Basic Data
ATF 96,98,100,101,	,103,107,
Equip Population in Data Base: 28	Equip. Population/Ship: 4 ea/ATF; Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S; A=0.83, B=0.1	
Total Equip. Operating Time (hours): 152	
Total Number of: Failures (CM_f) : 3	5 Corrective Maintenance Events (CM): 182
	52 Total CM Repair Man-Hours: 7947
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maintenand	
MTBCM _f : 4361 90% Confidence Interval	ce) MTBCM: 838 90% Confidence Interval
(Forced Shutdown Corrective Maintenand MTBCM _f : 4361	œ) MTBCM:838
(Forced Shutdown Corrective Maintenand MTBCM _f : 4361 90% Confidence Interval Upper Limit: 5901 Lower Limit: 3289	MTBCM: 838 90% Confidence Interval Upper Limit: 952
(Forced Shutdown Corrective Maintenand MTBCM _f : 4361 90% Confidence Interval Upper Limit: 5901 Lower Limit: 3289	MTBCM:838
(Forced Shutdown Corrective Maintenand MTBCM _f : 4361 90% Confidence Interval Upper Limit: 5901 Lower Limit: 3289 MacCorrective Maintenance — (Forced Shutdown Failure Events Only)	MTBCM:838
(Forced Shutdown Corrective Maintenand MTBCM _f : 4361 90% Confidence Interval Upper Limit: 5901 Lower Limit: 3289 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.2	MTBCM: 838 90% Confidence Interval Upper Limit: 952 Lower Limit: 742 aintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 29.1
(Forced Shutdown Corrective Maintenance MTBCM _f : 4361 90% Confidence Interval	MTBCM:838
(Forced Shutdown Corrective Maintenance MTBCM _f : 4361 90% Confidence Interval	MTBCM:838
(Forced Shutdown Corrective Maintenance MTBCM _f : 4361 90% Confidence Interval Upper Limit: 5901 Lower Limit: 3289 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 16.2 MCMM _f : 2.0 Max. Observed MH: 500 MCMM _f : 24.4	MTBCM:838
(Forced Shutdown Corrective Maintenance MTBCM _f : 4361 90% Confidence Interval	MTBCM:838
(Forced Shutdown Corrective Maintenance MTBCM _f : 4361 90% Confidence Interval	MTBCM:838

Noun Name:				
General Description: _	Engine Diesel	6 53	9 Sed 900 HP 700	RPM CCW
CID/APL Number(s):	664010005	F	ederal Stock Number: 282	815-132-8675
Equipment Identificat	ion Code:	LA00000	/3101000	<u> </u>
Technical Manual:	341-5465			
		Basic D	Pata Pata	
Ship Population:	ATF 96, 98, 100,	113	_ Equip. Population/Ship:	4
Equip. Population in	Data Base:	16	_ Data Assessment Period:	7/1/67 - 6/30/69
Utilization Factors:	ATF-S: A = 0.83;	B = 0	.18; $C = 0.00$	
Total Equip. Operatin	g Time (hours):	35078		
Total Number of:	Failures (CM _f):	3 c	orrective Maintenance Events	s (CM):
Total CM. Repair Mar	n-Hours: 82	т	otal CM Repair Man-Hours:	746
Maintenance Factors:		0.67		
		Reliability	Indices *	
	I Horizona Constante Mai	Reliability	Indices *	
Mean Time Between 1		dean Time	Indices * fean Time Between Corrective	e Maintenance
		M		re Maintenance
(Forced Shutdov	Failure vn Corrective Maintenanc	M œ)		
(Forced Shutdov	Failure wn Corrective Maintenanc 28359	M De)	lean Time Between Correctiv	- 12 Partie partie
(Forced Shutdov MTBCM _f :	Failure wn Corrective Maintenanc 28359 Interval	M De)	fean Time Between Corrective TBCM: 5672 90% Confidence Interval Upper Limit:	9198
(Forced Shutdov MTBCM _f :	Failure wn Corrective Maintenanc 28359	M De)	fean Time Between Corrective TBCM: 5672 90% Confidence Interval	9198
(Forced Shutdov MTBCM _f :	Failure vn Corrective Maintenance 28359 Interval it: 103880	M De)	fean Time Between Corrective TBCM: 5672 90% Confidence Interval Upper Limit:	9198
(Forced Shutdov MTBCM _f :	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962	M De)	Mean Time Between Corrective TBCM: 5672 90% Confidence Interval Upper Limit: Lower Limit:	9198
(Forced Shutdov MTBCM _f : 90% Confidence Upper Limi Lower Limi	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962 Ma	e) Maintainabili	fean Time Between Corrective TBCM: 5672 90% Confidence Interval Upper Limit: Lower Limit: ty Indices	9198 3683
(Forced Shutdow MTBCMf: 90% Confidence Upper Limit Lower Limit Corrective Maintenance	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962 Ma	e) Maintainabili	Mean Time Between Corrective TBCM: 5672 90% Confidence Interval Upper Limit: Lower Limit:	9198 3683
(Forced Shutdow MTBCMf: 90% Confidence Upper Limi Lower Limi Corrective Maintenance Failure Events Onl	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962 Ma	Mee) Maintainabili	fean Time Between Corrective TBCM: 5672 90% Confidence Interval Upper Limit: Lower Limit: ty Indices Corrective Maintenance — (All	9198 3683
(Forced Shutdow MTBCMf: 90% Confidence Upper Limi Lower Limi Corrective Maintenance Failure Events Only MTTRf:	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962 Ma ce — (Forced Shutdown y)	Me) Maintainabili	fean Time Between Corrective TBCM: 5672 90% Confidence Interval Upper Limit: Lower Limit: ty Indices Corrective Maintenance — (All ATTR _{cm} : 33.2 ACMM _{cm} : 8.6	9198 3683
(Forced Shutdow MTBCMf:	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962 Ma ce - (Forced Shutdown y) 18.2 1.0	Mee) Maintainabili C	MEAN Time Between Corrective 17BCM: 5672 90% Confidence Interval Upper Limit: Lower Limit: ty Indices 17TR _{cm} : 33.2 17CMM _{cm} : 8.6 18ACMM _{cm} : 8.6 18ACMM _{cm} : 8.6	9198 3683
(Forced Shutdow MTBCMf: 90% Confidence Upper Limi Lower Limi Corrective Maintenanc Failure Events Onl MTTRf: MCMMf: Max. Observed M	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962 Ma ce - (Forced Shutdown y) 18.2 1.0	Mee) Maintainabili C	MEAN Time Between Corrective 17BCM: 5672 90% Confidence Interval Upper Limit: Lower Limit: ty Indices 17TR _{cm} : 33.2 17CMM _{cm} : 8.6 18ACMM _{cm} : 8.6 18ACMM _{cm} : 8.6	9198 3683
(Forced Shutdow MTBCMf:	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962 Ma ce — (Forced Shutdown y) 18.2 1.0 MH: 81	Mee) Maintainabili C	MEAN Time Between Corrective 1TBCM: 5672 90% Confidence Interval Upper Limit: Lower Limit: ty Indices 1TTR _{cm} : 33.2 1CMM _{cm} : 8.0	9198 3683
(Forced Shutdov MTBCMf:	Failure vn Corrective Maintenance 28359 Interval it: 103880 it: 10962 Ma ce - (Forced Shutdown y) 18.2 1.0 MH: 81 27.3 2120	Mee) Maintainabili C M	MEAN Time Between Corrective 17BCM: 5672 90% Confidence Interval Upper Limit: Lower Limit: ty Indices 17TR _{cm} : 33.2 17TR _{cm} : 8.6 17TR _{cm} : 8.6 17TR _{cm} : 49.8	9198 3683

deneral Description: Engine DSL O FS-C	300HP 750RPM CCW
CID/APL Number(s): 664910018	_ Federal Stock Number: None * (1)
Equipment Identification Code:Aloo	eogus (como region) consessors (seedhanii 284)
	COLC 1985 Carrent Carrent
Manufacturer: 88080 Cooper Industries	Inc. Cooper-Bessemer Div.
	Basic Data
ATF 96,98,103,105,107	Ferrin Population (Shin: 3 as /ATTR
Snip Population:	Equip. Population/Ship: 3 ea/ATF; Data Assessment Period: 7/1/67 - 6/30/6
Equip. Population in Data Base:	C=0.0
Total Equip. Operating Time (hours): 96382	
Total Number of Failures (CMs): 38	Corrective Maintenance Events (CM):148
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:7055
Maintenance Factors: 0.67	
Relia Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure	Most visites that
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2536 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 651 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2536 90% Confidence Interval Upper Limit: 3387	Mean Time Between Corrective Maintenance MTBCM: 651 90% Confidence Interval Upper Limit: 750
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2536 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 651 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2536 90% Confidence Interval Upper Limit: 3387 Lower Limit: 1935	Mean Time Between Corrective Maintenance MTBCM: 651 90% Confidence Interval Upper Limit: 750
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2536 90% Confidence Interval Upper Limit: 3387 Lower Limit: 1935	Mean Time Between Corrective Maintenance MTBCM: 651 90% Confidence Interval Upper Limit: 750 Lower Limit: 568
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2536 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2536 90% Confidence Interval Upper Limit:3387 Lower Limit:1935 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :12.3	Mean Time Between Corrective Maintenance MTBCM: 651 90% Confidence Interval Upper Limit: 750 Lower Limit: 568 Limability Indices Corrective Maintenance – (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2536 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:651
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2536 90% Confidence Interval Upper Limit:3387 Lower Limit:1935 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :12.3 MCMM _f :6.7 Max. Observed MH:140	Mean Time Between Corrective Maintenance MTBCM: 651 90% Confidence Interval Upper Limit: 750 Lower Limit: 568 Limability Indices Corrective Maintenance – (All Events) MTTR _{cm} : 31.8 MCMM _{cm} : 12.7 Max. Observed MH: 567
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2536 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:651
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :2536 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:651

Noun Name: Diesel Engine Propulsion	
General Description: Engine DSL 12 ID-	1700-T3- 600HP 2000RPM CW
CID/APL Number(s): 665000005, 66500000	26 Federal Stock Number: None * (1)
Equipment Identification Code: 1A60	
Technical Manual: 341-3393	
Manufacturer: 66640 Wright Aeronautic	al Div. of Curtiss-Wright Corp.
Ba	asic Data
MSØ 462,466,	644 trepade Latin
Ship Population: 508:	Equip. Population/Ship: 4 ea/MSØ
Equip. Population in Data Base: 12	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.76, B=0.16,	C=0.00
Total Equip. Operating Time (hours):	120
Total Number of: Failures (CM _f): 28	Corrective Maintenance Events (CM): 132
Total CMe Repair Man-Hours: 253	Total CM Repair Man-Hours:10584
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1542 90% Confidence Interval Upper Limit: 2171 Lower Limit: 1125	MTBCM:
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 6.0 MCMM _f : 8.0	Corrective Maintenance — (All Events) MTTR _{cm} :
Max. Observed MH: 32	Max. Observed MH:1282
MCMM _f : 9.0	MCMM _{cm} : 80.1
Variance:51	Variance: 36900
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) TD-Model TD-1700-T3	3:

	12 ID-1700-T3 600 HP 2000 RPM CW
CID/APL Number(s): 665000005 & 665000	0006 Federal Stock Number: None Model ID 1700T3
Equipment Identification Code:1	IA00000/3101000
Technical Manual: 341-3393	
Manufacturer: 66640 Wright Aero	onautical Div. of Curtiss-Wright Corp.
	Basic Data
Ship Population: MSØ 426,432,435,437,4	444,*(1) Equip. Population/Ship: 4
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: MSØ-S: A = 0.76;	B = 0.16; C = 0.00
Total Equip. Operating Time (hours):	265194
	Corrective Maintenance Events (CM): 98
Total CM ₆ Repair Man-Hours: 899	Total CM Repair Man-Hours: 4546
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMe: 5412	Mean Time Between Corrective Maintenance MTBCM: 2706
(Forced Shutdown Corrective Maintenance MTBCM _f : 5412 90% Confidence Interval Upper Limit: 6964	Massa lines the two responses to the second assertion (second second sec
(Forced Shutdown Corrective Maintenance MTBCM _f : 5412 90% Confidence Interval Upper Limit: 6964 Lower Limit: 4265	MTBCM: 2706 90% Confidence Interval Upper Limit: 3222
(Forced Shutdown Corrective Maintenance MTBCM _f : 5412 90% Confidence Interval Upper Limit: 6964 Lower Limit: 4265	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f : 5412 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f : 5412 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f : 5412 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f : 5412 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f : 5412 90% Confidence Interval	MTBCM:

Noun Name: Diesel Engine Auxiliary	SL 52 feesta estable soldiered trees.
General Description: Engine DSL 12 TD-	1700-T6 600HP 2000RPM CW
CID/APL Number(s): 665000008	_ Federal Stock Number: None * (1)
Equipment Identification Code: A100	conet isome
Technical Manual: 341-3393	
Manufacturer: 66640 Wright Aeronautic	al Div. of Curtiss-Wright Corp.
В	asic Data
MSC 198,199; Ship Population: MSO 462,466,508	2 ea/MSC; Equip. Population/Ship: 1 ea/MSØ
Equip. Population in Data Base:10	Data Assessment Period: 7/1/67 - 6/30/69 C=0.0: MSO/S= A=0.05.B=0.0.C=0.0
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f): 1	Corrective Maintenance Events (CM):5
Total CMe Repair Man-Hours: 7	Total CM Repair Man-Hours: 174
Maintenance Factors:	.0/
Relia	bility Indices **
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 1803	MTBCM:361
90% Confidence Interval	90% Confidence Interval
Upper Limit:	Upper Limit:
Lower Limit:	Lower Limit:
Maintai	inability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTRe: 4.7	MTTR _{cm} :23.3
MCMM _f :O	MCMM _{cm} :7.0
Max. Observed MH:O	Max. Observed MH:155
MCMM _f : 7.0	MCMM _{cm} : 34.9
Variance:O	Variance: 4516
Indicated Distribution(s): Exponential	Normal Log Normal
*PEMARKS: #(1) TO Model TD-1700-M	6.0 May Johnson Sellie ent benegation
*REMARKS: *(1) ID Model ID-1700-T	

	D-850-R3 275HP 1800RPM CW
CID/APL Number(s): 665000015	Federal Stock Number:
Equipment Identification Code: A100	Series and Control of the Control of
Technical Manual: 361-1364	1981A esheChrippiphineM thecause
Manufacturer: 66640 Wright Aeronauti	cal Div of Curtiss-Wright Corp.
1	Basic Data
Ship Population: MSO, 462, 466, 508	Equip. Population/Ship: 1 ea/MSO
	Data Assessment Period: 7/1/67 - 6/30/6
	=0.05
Total Equip. Operating Time (hours):1633	7
Total Number of: Failures (CM _f): 36	Corrective Maintenance Events (CM): 124
Total CM. Repair Man-Hours: 2012	Total CM Repair Man-Hours: 4215
Maintenance Factors: 0.67	1000 ON Teepan Name 10000.
Ralis	ability Indices **
Relia	ability Indices **
Relia Mean Time Between Failure	ability Indices ** Mean Time Between Corrective Maintenance
	al eaglatek
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 131 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:154
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 131 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344	Mean Time Between Corrective Maintenance MTBCM:131 90% Confidence Interval Upper Limit:154
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 37.3	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 37.3 MCMM _f : 7.8	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 37.3 MCMM _f : 7.8 Max. Observed MH: 1189	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 37.3 MCMM _f : 7.8 Max. Observed MH: 1189 MCMM _f : 55.9	MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 37.3 MCMM _f : 7.8 Max. Observed MH: 1189	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 453 90% Confidence Interval Upper Limit: 611 Lower Limit: 344 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 37.3 MCMM _f : 7.8 Max. Observed MH: 1189 MCMM _f : 55.9	MTBCM:

Noun Name: Diesel Engine, Auxiliary	THE RESERVE OF THE PROPERTY OF
General Description: Engine DSL 7 38F5	
CID/APL Number(s): 665360153,66536015	54 Federal Stock Number: None * (1)
Equipment Identification Code:Aloo	
Manufacturer: 21387 Fairbanks Morse In	nc.
Ba	sic Data
Ship Population: LST 1173,1174,1175,1176	Equip. Population/Ship: 3 ea/LST;
Equip. Population in Data Base:12	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.44, B=0.53, (C=0.05
Total Equip. Operating Time (hours): 542	84
Total Number of: Failures (CMf): 25	_ Corrective Maintenance Events (CM):
Total CMe Repair Man-Hours: 501	_ Total CM Repair Man-Hours: 4944
Maintenance Factors: 0.67	
Reliab	ility Indices **
	Autorities of Balance Pauline
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 2171	MTBCM: 414
90% Confidence Interval	90% Confidence Interval
Upper Limit: 3123	Upper Limit: 481
Lower Limit: 1555	Lower Limit: 358
Maintair	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :13.4	MTTR _{cm} :25.1
MCMM _f :6_0	MCMM _{cm} :9.0
Max. Observed MH:154	Max. Observed MH:1073
MCMM _f :20.0	MCMM _{cm} :37.7
Variance:1466	Variance: 12404
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID Model-38F5 1-4: ID Model-38F5 1-4:	Dwg-102AD7H44B2 Rev. D; Dwg-102AD7H44A3 Rev. D
I Plotter Jory 1 1)	

Federal Stock Number: None, ID Model 38F9
c Data
76* (1) Equip. Population/Ship: 3 Ea/LST
Data Assessment Period: 7/1/67 - 6/30/6
0.53; C = 0.0
Corrective Maintenance Events (CM): 43
Total CM Repair Man-Hours: 1736
90% Confidence Interval Upper Limit:2021
Lower Limit:1196
bility Indices
Corrective Maintenance — (All Events)
and an analysis of the second
MTTR _{cm} :
MCMM _{cm} :8_0
Max. Observed MH: 966
MCMM _{cm} : 42.3 Variance: 22476
variance: <u>22770</u>
Normal Log Normal
-

Noun Name: Diesel Engine Propulsion	
General Description: Engine DSL 12 38M	D8 1-8 2400HP 850RPM CCW
CID/APL Number(s): 665360165 **(2)	Federal Stock Number: None * (1)
Equipment Identification Code: 1A00	
Technical Manual: 341-3435	
Manufacturer: 82796 Fairbanks Morse In	nc.
Ba	sic Data
	Equip. Population/Ship: 4 ea/LST
Equip. Population in Data Base: 12	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=1.00, B=0.15, C=	=Q.QQ
Total Equip. Operating Time (hours): 59661	
Total Number of: Failures (CM _f): 18	Corrective Maintenance Events (CM): 108
Total CMc Repair Man-Hours: 716	Total CM Repair Man-Hours:3146
Maintenance Factors: 0.67	
Reliab	ility Indices**
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 3509	MTBCM:552
90% Confidence Interval	90% Confidence Interval
Upper Limit:5508	Upper Limit: 652
Lower Limit: 2340	Lower Limit: 471
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 26.5	MTTR _{cm} : 19.4
MCMM _f : 11.0	MCMM _{cm} :8.0
Max. Observed MH: 280	Max. Observed MH: 513
MCMM _f : 40.0	MCMM _{cm} : 29.1
Variance: _5236	Variance: 5684
Indicated Distribution(s): Exponential	Normal Log Normal x
*REMARKS: *(1) ID-38ND8 1-8;	
**665360166, 665360167, 665360168	

	BND8 1-8 2400HP 850RPM CW . CCW . CCW . Federal Stock Number: 2S2815-580-1456
Equipment Identification Code: 1A00	
Technical Manual:341-3461	
Manufacturer: 21387 Fairbanks Morse	The
Manufacturer. 2130/ Parrbains Morbe	THE.
	Basic Data
Ship Population: DE 1033,1034;	Equip. Population/Ship: 4 ea/DE;
	Data Assessment Period: 7/1/67 - 6/30
Utilization Factors: S; A=1.0, B=0.15, (C=0.0
Total Equip. Operating Time (hours):	12631
Total Number of: Failures (CM _f): 17	Corrective Maintenance Events (CM):98
	Total CM Repair Man-Hours: 3374
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2507	Mean Time Between Corrective Maintenance MTBCM: 435
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2507 90% Confidence Interval Upper Limit: 3936	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:3936 Lower Limit:1672	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:3936 Lower Limit:1672	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:3936 Lower Limit:1672	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :90% Confidence Interval Upper Limit:3936 Lower Limit:1672 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368 Lainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :90% Confidence Interval Upper Limit:3936 Lower Limit:1672 Maint Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :8_0 MCMM _f :4_0	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368 Lower Limit: 488 Corrective Maintenance — (All Events) MTTR _{cm} : 23.0 MCMM _{cm} : 4.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 23.0 MCMM _{cm} : 4.0 Max. Observed MH: 800
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368 Lainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 23.0 MCMM _{cm} : 4.0 Max. Observed MH: 800 MCMM _{cm} : 34.4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 23.0 MCMM _{cm} : 4.0 Max. Observed MH: 800
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 435 90% Confidence Interval Upper Limit: 518 Lower Limit: 368 Lainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 23.0 MCMM _{cm} : 4.0 Max. Observed MH: 800 MCMM _{cm} : 34.4

General Description: Engine DSL 8 38E	
	Federal Stock Number: None * (1)
Equipment Identification Code: 1A00	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
l'echnical Manual: None	A SECTION OF THE PROPERTY OF T
Manufacturer: 21387 Fairbanks Morse	Inc.
	Basic Data
	Equip. Population/Ship: 1 ea/SSN;
Equip. Population in Data Base:3	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S; A=0.067, B=0.00	, C=0.00
Total Equip. Operating Time (hours): 1421	1980 Telephonic (1980) And Control (1980)
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):3
Total CMc Repair Man-Hours:	Total CM Repair Man-Hours: 25
Maintenance Factors:0.6	
(Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 473
(Forced Shutdown Corrective Maintenance)	NEW CONTRACTOR OF THE PROPERTY
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2050** 90% Confidence Interval Upper Limit: 2050 * Lower Limit: 2050 *	MTBCM: 473 90% Confidence Interval Upper Limit: 1738
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 473 90% Confidence Interval Upper Limit: 1738 Lower Limit: 183
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 473 90% Confidence Interval Upper Limit: 1738 Lower Limit: 183 tainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 473 90% Confidence Interval Upper Limit: 1738 Lower Limit: 183 tainability Indices Corrective Maintenance — (All Events) MTTRom: 5.6
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 473 90% Confidence Interval Upper Limit: 1738 Lower Limit: 183 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.6 MCMM _{cm} : 2.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 473 90% Confidence Interval Upper Limit: 1738 Lower Limit: 183 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.6 MCMM _{cm} : 2.0 Max. Observed MH: 21
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 473 90% Confidence Interval Upper Limit: 1738 Lower Limit: 183 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.6 MCMM _{cm} : 2.0 Max. Observed MH: 21
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
### MTBCMf:	MTBCM:

General Description: Engine DSL 6 38N	ID8 1-8 940HP 720RPM CCW
CID/APL Number(s): 665360197	
Equipment Identification Code: 1A00	
	ese Inc.
Manufacturer:	
	Manufacture 2017/6/30 (agree) a Manufacture Committee of the Committee of
620 622 622 622 62	Basic, Data
SSBN 628,629,630,631,632 634,635,636,640,641,642, Ship Population: 644,645, SSN 605;	1 ea/SSN
Ship Population: 644,645, SSN 605;	Equip. Population/Ship: 1 ea/SSBN;
Equip. Population in Data Base:16	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: SSBN/S; A=0.04, B=0.	.00, C=0.00/SSN/g: A=0.067, B=0.00, C=0.0
Total Equip. Operating Time (hours):767	73
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):8
Total CM _e Repair Man-Hours: 20	Total CM Repair Man-Hours:423
Maintenance Factors:	0.67
	Majorania Paters
	Meen Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7673	Mean Time Between Corrective Maintenance MTBCM: 959
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7673 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 959 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7673 90% Confidence Interval Upper Limit: 1617	Mean Time Between Corrective Maintenance MTBCM: 959 90% Confidence Interval Upper Limit: 1928
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7673 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:959 90% Confidence Interval Upper Limit:1928
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7673 90% Confidence Interval Upper Limit: 1617 Lower Limit: 149571	Mean Time Between Corrective Maintenance MTBCM: 959 90% Confidence Interval Upper Limit: 1928 Lower Limit: 532
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7673 90% Confidence Interval Upper Limit: 1617 Lower Limit: 149571	Mean Time Between Corrective Maintenance MTBCM: 959 90% Confidence Interval Upper Limit: 1928
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 7673 90% Confidence Interval Upper Limit: 1617 Lower Limit: 149571	Mean Time Between Corrective Maintenance MTBCM: 959 90% Confidence Interval Upper Limit: 1928 Lower Limit: 532
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 7673 90% Confidence Interval Upper Limit: 1617 Lower Limit: 149571 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 959 90% Confidence Interval Upper Limit: 1928 Lower Limit: 532 Ainability Indices Corrective Maintenance — (All Events)
$\begin{array}{c} \text{Mean Time Between Failure} \\ \text{(Forced Shutdown Corrective Maintenance)} \\ \text{MTBCM}_{\mathbf{f}} : \phantom{00000000000000000000000000000000000$	Mean Time Between Corrective Maintenance MTBCM:95990% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:959 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\mathbf{f}}$:	Mean Time Between Corrective Maintenance MTBCM:959
$\begin{array}{c} \text{Mean Time Between Failure} \\ \text{(Forced Shutdown Corrective Maintenance)} \\ \text{MTBCM}_{\mathbf{f}} : \phantom{00000000000000000000000000000000000$	Mean Time Between Corrective Maintenance MTBCM:95990% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\mathbf{f}}$:	Mean Time Between Corrective Maintenance MTBCM:959

Noun Name: Diesel Engine, Auxiliary	PRINT OF THE RESEARCH FOR	of paste (argues)
General Description: Engine DSL 10 38F	75 1-4 716HP 1200RPM CCW	<u> </u>
CID/APL Number(s): 665360215,6653602	216 Federal Stock Number:	mhl sochaust
Equipment Identification Code: A100	Lowned Judge to be 7 (10) (15) Living	unaM. Issueduro
Technical Manual: None		
Manufacturer: 82796 Fairbanks Morse I	Inc.	
SEES_ALLBERKERBASE GUPF _	Basic Data	
Ship Population: DEG 1,2,4,5;	Equip. Population/Ship: 2 es	DEG:
Equip. Population in Data Base:8	Data Assessment Period: 7/1/	67 - 6/30/69
Utilization Factors: S: A=0.02, B=0.24,		
Total Equip. Operating Time (hours): 23750	<u> </u>	20
Total Number of: Failures (CMf): 4	Corrective Maintenance Events (CM)):
Total CM _f Repair Man-Hours: 123	Total CM Repair Man-Hours:	943
Maintenance Factors: 0.67		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:17383 Lower Limit:2595	Mean Time Between Corrective Main MTBCM: 848 90% Confidence Interval Upper Limit: 1193 Lower Limit: 619	Tone one
Mainta	ainability Indices	
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Corrective Maintenance — (All Even MTTR _{cm} :	
Max. Observed MH: 90 MCMM _f : 30.6 Variance: 1660	Max. Observed MH:25 MCMM _{cm} :33.7 Variance:3398	2
Indicated Distribution(s): Exponential	Normal	Log Normal
REMARKS:(1) ID - 38F5 1-4 AUTOS	STRT:	

2 Ea/DEG : 7/1/67 - 6/30/69 ts (CM): _8
2 Ea/DEG : 7/1/67 - 6/30/69 ts (CM): _8
2 Ea/DEG : 7/1/67 - 6/30/69 ts (CM): _8
2 Ea/DEG : 7/1/67 - 6/30/69 ts (CM): _8
ts (CM): _8
ts (CM): _8
ts (CM): _8
ts (CM):8
ts (CM):8
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1645
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Pallum Resets Only)
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M. Chargood MB:
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Log Normal
Log Normal
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General Description: Engine DSL 10	38D8 1-8 2117HP 900RPM	
CID/APL Number(s): 665360225		Loster renovas
Equipment Identification Code: A100		
Technical Manual: 0941-015-9010		
Manufacturer: 82796 Fairbanks Morse		
Mailulacturer. Oct 70 Tarroams Morb	edu Tokasi	
	Basic Data	
Ship Population: <u>A0 105,107,108;</u>	Equip. Population/Ship: 3 ea/	AO:
Equip. Population in Data Base:9	Data Assessment Period: 7/1/67	- 6/30/69
Utilization Factors: S: A=0.10, B=0.02	25, C=0.0	
Total Equip. Operating Time (hours):	8274	<u>a sanduk</u>
Total Number of: Failures (CM _f):7	Corrective Maintenance Events (CM):	24
Total CM _f Repair Man-Hours:26	Total CM Repair Man-Hours:	569
Maintenance Factors:	0.67	
Mean Time Between Failure	eliability Indices ** Mean Time Between Corrective Mainten	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1182 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1182 90% Confidence Interval Upper Limit: 2518	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500	AMONT stage you ragif may 7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1182 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval	AMONT stage you ragif may 7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1182 90% Confidence Interval Upper Limit: 2518 Lower Limit: 629	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500	AMONT Stago, contr rangil Stago
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1182 90% Confidence Interval Upper Limit: 2518 Lower Limit: 629	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500 Lower Limit: 245	MORE MINE AND A SERVICE TO A SE
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1182 90% Confidence Interval Upper Limit: 2518 Lower Limit: 629 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500 Lower Limit: 245 Intainability Indices Corrective Maintenance — (All Events)	MORE MINE AND A SERVICE TO A SE
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 1182 90% Confidence Interval Upper Limit: 2518 Lower Limit: 629 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.5	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500 Lower Limit: 245 Intainability Indices Corrective Maintenance — (All Events) MTTRcm: 15.8	MORE MINE AND A SERVICE TO A SE
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500 Lower Limit: 245 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.8 MCMM _{cm} : 4.3	wMONET straig (Control of the Control of the Contro
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500 Lower Limit: 245 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.8 MCMM _{cm} : 4.3 Max. Observed MH:	yMORE stripts year rangil
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500 Lower Limit: 245 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.8 MCMM _{cm} : 4.3	wMONET STORY CONTRACT STORY ST
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 344 90% Confidence Interval Upper Limit: 500 Lower Limit: 245 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.8 MCMM _{cm} : 4.3 Max. Observed MH: MCMM _{cm} : 23.7 Variance: 4263	wMONET straig (Control of the Control of the Contro

CID/AIL Number(s): 005/10019	3-268A 143HP 1200RPM CCW Federal Stock Number:
	00
Technical Manual: 361-0591	
Manufacturer: 72915 Electro Moti	ve Div of General Motors Corp.
	Basic Data
Ship Population: LST 1076	Equip. Population/Ship: 3/LST 1076
Equip. Population in Data Base:3	Data Assessment Period: 7/1/67 - 6/30/6
	0.53, C=0.05
Total Equip. Operating Time (hours):	
	5 Corrective Maintenance Events (CM): 25
Total CM _f Repair Man-Hours:86	Total CM Repair Man-Hours: 1826
Maintenance Factors:O.	67
Mean Time Between Failure (Forced Shutdown Corrective Maintena MTBCM _f : 2519	MTBCM:503
90% Confidence Interval	90% Confidence Interval
Upper Limit: 6395	Upper Limit: 725
Lower Limit: 1198	Lower Limit: 361
	Maintainability Indices
1	
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4	MTTR _{cm} : 48.7
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4 MCMM _f : 9.0	MTTR _{cm} : 48.7 MCMM _{cm} : 21.6
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4 MCMM _f : 9.0 Max. Observed MH: 44	MTTR _{cm} : 48.7 MCMM _{cm} : 21.6 Max. Observed MH: 336
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4 MCMM _f : 9.0	MTTR _{cm} : 48.7 MCMM _{cm} : 21.6

leneral Description: Engine DSL 12 1	.2-278A 900HP 744RPM CW
	29 Federal Stock Number: None *(1)
Equipment Identification Code: 1A00	
Technical Manual: 341-5375	Date Co., Co. C. Control of Mark Physics Co. (1971)
	Div of General Motors Corp.
Manufacturer	ration else?
	Basic Data
Ship Population: <u>LST 1073,1076,1077</u>	Equip. Population/Ship: 2 ea/LST
Equip. Population in Data Base:6	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.60, B=0.10,	C=0.0
Total Equip. Operating Time (hours): 227	764
Total Number of: Failures (CM _f): 17	Corrective Maintenance Events (CM): 65
Total CMc Repair Man-Hours: 2931	Total CM Repair Man-Hours:5566
Maintenance Factors: 0.67	
Reli Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	iability Indices ** Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339	Mean Time Between Corrective Maintenance MTBCM: 350
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 350 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102	Mean Time Between Corrective Maintenance MTBCM: 350 90% Confidence Interval Upper Limit: 435
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 350 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102 Lower Limit: 893	Mean Time Between Corrective Maintenance MTBCM: 350 90% Confidence Interval Upper Limit: 435
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102 Lower Limit: 893	Mean Time Between Corrective Maintenance MTBCM: 350 90% Confidence Interval Upper Limit: 435 Lower Limit: 285
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102 Lower Limit: 893 Maintenance	Mean Time Between Corrective Maintenance MTBCM: 350 90% Confidence Interval Upper Limit: 435 Lower Limit: 285 ainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102 Lower Limit: 893 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.9	Mean Time Between Corrective Maintenance MTBCM: 350 90% Confidence Interval Upper Limit: 435 Lower Limit: 285 ainability Indices Corrective Maintenance — (All Events) MTTRcm: 58.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102 Lower Limit: 893 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.9 MCMM _f : 4.3	Mean Time Between Corrective Maintenance MTBCM: 350 90% Confidence Interval Upper Limit: 435 Lower Limit: 285 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 58.0 MCMM _{cm} : 10.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102 Lower Limit: 893 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.9 MCMM _f : 4.3 Max. Observed MH: 221	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102 Lower Limit: 893 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.9 MCMM _f : 4.3 Max. Observed MH: 221 MCMM _f : 22.4	MTBCM: 350 90% Confidence Interval Upper Limit: 435 Lower Limit: 285 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 58.0 MCMM _{cm} : 10.3 Max. Observed MH: 1539 MCMM _{cm} : 87.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1339 90% Confidence Interval Upper Limit: 2102 Lower Limit: 893 Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 14.9 MCMM _f : 4.3 Max. Observed MH: 221	Mean Time Between Corrective Maintenance MTBCM:

Engine Diesel 1	2 12-278 896 HP 750 RPM CCW
eneral Description: 665710162	Federal Stock Number: S75E53737 - 2502C
equipment Identification Code: 1A0	0000/000000
Technical Manual: 341-5368	a Direct Common Matana Comm
lanufacturer: 12915 Electro Motiv	e Div. of General Motors Corp.
	Basic Data
Ship Population: ATF 86	Equip. Population/Ship: 4 Ea/ATF
Pauin Population in Data Rase:	Data Assessment Period: 7/1/67 - 6/30/6
Jtilization Factors: ATF-S: A = 0.83; B	= 0.18; C = 0.00
Total Equip. Operating Time (hours): 250	12
Total Number of: Failures (CM _f):7	Corrective Maintenance Events (CM):3
	Total CM Repair Man-Hours: 414
Maintenance Factors: 0.67	
Reli	ability Indices*
	as) settantials
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCMe: 3573	MTBCM: 1924
MTBCM _f : 3573 90% Confidence Interval	90% Confidence Interval
90% Confidence Interval	90% Confidence Interval Upper Limit: 3252
	90% Confidence Interval
90% Confidence Interval Upper Limit: 7607 Lower Limit: 1901	90% Confidence Interval Upper Limit: 3252
90% Confidence Interval Upper Limit: 7607 Lower Limit: 1901 Mainta	90% Confidence Interval Upper Limit: 3252 Lower Limit: 1210 ainability Indices
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 3252 Lower Limit: 1210 ainability Indices
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 3252 Lower Limit: 1210 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 21.3
90% Confidence Interval Upper Limit: 7607 Lower Limit: 1901 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 29.7	90% Confidence Interval Upper Limit:3252 Lower Limit:1210 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :21.3 MCMM _{cm} :8.0
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 3252 Lower Limit: 1210 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 21.3 MCMM _{cm} : 8.0 Max. Observed MH: 183
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit:3252 Lower Limit:1210 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :21.3 MCMM _{cm} :8.0 Max. Observed MH:183 MCMM _{cm} :31.9
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit:3252 Lower Limit:1210 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :21.3 MCMM _{cm} :8.0
90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit:3252 Lower Limit:1210 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} :21.3 MCMM _{cm} :8.0 Max. Observed MH:183 MCMM _{cm} :31.9

Noun Name:	Propulsion Die	esel Eng	ine	CANDON BY LIDING
			12-278A 875 HP 750 RPI	
CID/APL Number(s):	665710171		Federal Stock Number: 2S2815-	132-8683
Equipment Identificat	ion Code:	1A000	000/000000	Terrorit to andre
			368	
Manufacturer:	72915 Electro	Motive	Div. of General Motors C	orp.
				4
		Basi	ic Data	
Ship Bonulation AT	F 149.156.157.15	8.159.160	*(1) Equip. Population/Ship: 4	
Fauin Population in	Data Race	36	Data Assessment Period: 7/1,	/67 - 6/30/69
			: 0.18; C = 0.00	
			26	
Total Number of:	Failures (CMe):	29	Corrective Maintenance Events (CM):137
			Total CM Repair Man-Hours:	2501
Maintenance Factors:		0.07		
MTBCM _f :90% Confidence Upper Limi Lower Limi		63 296 d) ol.	MTBCM:	9
		Maintaina	bility Indices	
Corrective Maintenand Failure Events Only	y)	wn	Corrective Maintenance — (All Ever	its)
MTTR _f :	8.7		MTTR _{cm} :12.6	
	8.0		MCMM _{cm} :8.0	
Max. Observed M			Max. Observed MH:299	- 10000
MCMM _f :1			MCMM _{cm} : 18.9	
Variance: 2	45		Variance: 1006	
Indicated Distribution	n(s): Exponential	- 100 Aug	Normal	Log Normal X
			iability indices develope	ed for ARINC
Research Public	cation 933-02-	-3-1153.	dated December 1971	

	1 12 12-278A 900 HP 750 RPM CCW
CID/APL Number(s): 665710174	Federal Stock Number: 2S2815-132-8680
Equipment Identification Code:	
Technical Manual: 341-5364 & 3	
Manufacturer: 72915 Electro Moti	ve Div. of General Motors Corp.
	Basic Data
Ship Population: ATF 75, 92	Equip. Population/Ship: 4 Ea/ATF
Equip. Population in Data Base:	8 Data Assessment Period: 7/1/67 - 6/30/6
	B = 0.18; C = 0.00
Total Equip. Operating Time (hours):	49764
	Corrective Maintenance Events (CM): 22
Total CM _f Repair Man-Hours: 76	Total CM Repair Man-Hours: 285
Maintenance Factors:	0.67
44	Reliability Indices *
	Britalia distriction
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenand	
(Forced Shutdown Corrective Maintenand MTBCM _f : 7109 90% Confidence Interval	MTBCM: 2262 90% Confidence Interval
(Forced Shutdown Corrective Maintenand MTBCM _f : 7109	MTBCM: 2262 90% Confidence Interval Upper Limit: 3340
(Forced Shutdown Corrective Maintenand MTBCM _f : 7109 90% Confidence Interval	MTBCM: 2262 90% Confidence Interval
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM: 2262 90% Confidence Interval Upper Limit: 3340
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:90% Confidence Interval Upper Limit:3340 Lower Limit:1584 aintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance MTBCMf:	MTBCM:

Noun Name: Diesel Engine, Pro	pulsion	E ST famely entant the	area in the same
General Description: Engine DSL	16 16-27	8A 1600HP 750RPM CCW	mar History
CID/APL Number(s): 665710211	66571021	2Federal Stock Number: None *(1)
Equipment Identification Code:1	A00	8002-000 <u>0.887</u> 0-131	
Technical Manual: 341-1266		WAS AND SON AND AND SON STORY	
Manufacturer: 72915 Electro Mot	ive Div	of General Motors Corp.	
		T rise!	
LST 1156,1157,1159,1161,	1162, Basi	c Data	
Ship Population: 1166,1167,1168,	1169,117	O: Equip. Population/Ship: 4 aa/	LST;
Equip. Population in Data Base:	10	Data Assessment Period: 7/1/67	- 6/30/69
Utilization Factors: S: A=1.00,B=0	.15,C=0.	00	
Total Equip. Operating Time (hours): _	244974	The Control of Management of	
Total Number of: Failures (CMf):	80	Corrective Maintenance Events (CM):	431
Total CM _f Repair Man-Hours:	1366	Total CM Repair Man-Hours:	23387
Maintenance Factors:	.67		
Mean Time Between Failure (Forced Shutdown Corrective Maint MTBCM _f : 3062 90% Confidence Interval Upper Limit: 3719 Lower Limit: 2543	sobsection of	Mean Time Between Corrective Maintena MTBCM:	ance
	Maintaina	bility Indices	
Corrective Maintenance — (Forced Shutden Failure Events Only) MTTR _f : 11.4 MCMM _f : 4.1	own	Corrective Maintenance — (All Events) MTTR _{cm} :36.2 MCMM _{cm} :9.0	
Max. Observed MH:181	Mar N	Max. Observed MH: 1224	777
MCMM _f :17.1 Variance:1186		MCMM _{cm} :54.3 Variance:19184	
Indicated Distribution(s): Exponential *REMARKS: *(1) ID Model-16-		Normal Log	Normal <u>X</u>

Noun Name: Propulsion Diesel Engin	e 1 16 16-278A 1600 HP 750 RPM CCW
Noun Name: Propulsion Diesel Engine General Description: Engine Diese 665710211 & 6657102	1 10 10-270A 1000 HF 750 RFM CCW
CID/APL Number(s): OUD/10211 & OUD/102	Federal Stock Number: Note Hodel 10-210K
Equipment Identification Code: 1A000	217 5772 222 227 7266
Technical Manual: 341-1204 and	341-5172 and 341-1200
Manufacturer: 72915 Electro Motive Di	v. of General Motors Corp.
	in the contract of the contrac
В	asic Data
LST1159,1161,1163,1166,	1167*(1) Equip. Population/Ship: 4 ea/LST
Ship Population:	Data Assessment Period: 7/1/67 - 6/30/6
Equip. Population in Data Base: 32 Utilization Factors: LST-S: A = 0.63; B =	0.05; C = 0.0
Total Equip. Operating Time (hours): 10566	6
Total Equip. Operating Time (nours).	Corrective Maintenance Events (CM): 188
1089	-01-
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:3840
Maintenance Factors:	
	CONTRACTOR OF THE CONTRACTOR O
Relia	bility Indices**
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
MTBCM _f : 2457	M (DOM
90% Confidence Interval	90% Confidence Interval
Opper Limit:	Upper Limit: 498
Lower Limit:	Lower Little.
Maintai	nability Indices
	Holonia dell'
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	MTTR _{cm} :10.5
MTTR _f : 8.8 MCMMe: 3.0	12 5
MCMM _f : 3.0 Max. Observed MH: 144	MCMM _{cm} :
Max. Observed Min.	MCMM _{cm} : 15.8
Wariance: 1026	Variance: 667
	Normal Log Normal X
Indicated Distribution(s): Exponential	Horniu

Equipment Identification

Ť;

	268ANM 450HP 1200RPM CCW	
CID/APL Number(s): 665710265		
Equipment Identification Code: 1A00		
Technical Manual: 341-1267		
Manufacturer: 72915 Electro Motive Di	v of General Motors Corp.	
77.7	Basic Data	
Ship Population: MSC 205, 206, 207, 208, 20	00. Family Banulation (Shine / As /	ASC ·
Equip. Population in Data Base: 20		
Utilization Factors: S/A=1.0, B=0.16, (C=0 0	- 0/30/09
Total Equip. Operating Time (hours):		
Total Number of: Failures (CM _f):22	Corrective Maintenance Events (CM):	155
Total CM _f Repair Man-Hours: 883 Maintenance Factors: 0.67		
Manitenance Pactors.		
Relia	ability Indices **	
	ential genera	ance
Mean Time Between Failure	ability Indices ** Mean Time Between Corrective Mainten	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Mainten	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344	Mean Time Between Corrective Mainten	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval Upper Limit: 9372	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033	,3656 793 165 8763 167
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval	2000 PHY 1600 PHY 1617
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033 Lower Limit: 788	_36/36 74 X 16/2 37 G
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033	,3656 793 165 8763 167
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033 Lower Limit: 788	2000 PHY 1600 PHY 1617
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443 Mainta	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033 Lower Limit: 788	2000 PHY 1600 PHY 1617
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033 Lower Limit: 788 Limability Indices Corrective Maintenance — (All Events)	,3656 793 165 8763 167
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 63 ⁴⁴ 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 25.6	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033 Lower Limit: 788 Lower Limit: 43.0	2000 PHY 1600 PHY 1617
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033 Lower Limit: 788 Limability Indices Corrective Maintenance — (All Events)	,3656 793 165 8763 167
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 6344 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 25.6 MCMMf: 5.3 Max. Observed MH: 650	Mean Time Between Corrective Mainten MTBCM: 900 90% Confidence Interval Upper Limit: 1033 Lower Limit: 788 Lower Limit: 788 MTTR _{cm} : 43.0 MCMM _{cm} : 18.0 Max. Observed MH: 1244	2000 PHY 1600 PHY 1617
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 63 ⁴⁴ 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 25.6 MCMM _f : 5.3 Max. Observed MH: 650 MCMM _f : 38.4	Mean Time Between Corrective Mainten MTBCM:	_36387FX 16237F3 167
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 6344 90% Confidence Interval Upper Limit: 9372 Lower Limit: 4443 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 25.6 MCMM _f : 5.3 Max. Observed MH: 650	Mean Time Between Corrective Mainten MTBCM:	_36387FX 16237F3 167

Noun Name: <u>Diesel Er</u>			
		268A 450HP 1200RPM CCW	
CID/APL Number(s): 66	65710281,6657100	19 Federal Stock Number:	and the second second
Equipment Identification Co	de: <u>A100</u>		CONTRACTOR OF THE
Technical Manual: 361-1			C THOLESPISED EXTRING
Manufacturer: 72915 Ele	ectro Motive Div	of General Motors Div.	COLUMN PROPERTY PASSES
		sic Data	
LST 1156,1157,11			2 aa/T.ST
Ship Population: 1103,11	33 100,1107,1108,11	69, Equip. Population/Ship:	1/67 6/30/6
		C= 0.05	Li in interpreta
Total Equip. Operating Time	(hours): 100342	Compating Maintenance Fronts (C	415
		Corrective Maintenance Events (C	
Total CM _f Repair Man-Hours	s:1105	Total CM Repair Man-Hours:	26261
Maintenance Factors:	0.67	3837	
Mean Time Between Failure (Forced Shutdown Corn	rective Maintenance)	Mean Time Between Corrective M	Saintenance
Mean Time Between Failure		Rost valuences	Saintenance
Mean Time Between Failure (Forced Shutdown Corn	rective Maintenance)	Rost valuences	Saintenance
Mean Time Between Failure (Forced Shutdown Corn	rective Maintenance)	Mean Time Between Corrective M	laintenance
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Interva	rective Maintenance)al	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42	0
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717	rective Maintenance) al 3415	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval	0
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Intervalupper Limit: 3	rective Maintenance) al 3415	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42	0
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Intervalupper Limit: 3	rective Maintenance) al 8415	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42	0
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Interva Upper Limit: 3 Lower Limit: 2	rective Maintenance) al 8415 2188 Maintain	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42 Lower Limit: 35	<u>0</u>
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Interva Upper Limit: 3 Lower Limit: 2	rective Maintenance) al 8415 2188 Maintain	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42 Lower Limit: 35	<u>0</u>
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Interva Upper Limit: 3 Lower Limit: 2 Corrective Maintenance — (F	rective Maintenance) al 8415 2188 Maintain	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42 Lower Limit: 35 nability Indices Corrective Maintenance — (All Ev	<u>0</u>
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Interva Upper Limit: 2 Lower Limit: 2 Corrective Maintenance — (F Failure Events Only) MTTR _f : 12.5	rective Maintenance) al 8415 2188 Maintain	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42 Lower Limit: 35 nability Indices Corrective Maintenance — (All Ev	<u>0</u>
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Interva Upper Limit: 2 Lower Limit: 2 Corrective Maintenance — (F Failure Events Only) MTTR _f : 12.5	rective Maintenance) al 3415 2188 Maintain	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42 Lower Limit: 35 nability Indices Corrective Maintenance — (All Ev MTTR _{cm} : 42.2 MCMM _{cm} : 9.5 Max. Observed MH: 52	o 6
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f :2717 90% Confidence Interva Upper Limit:3 Lower Limit:3 Corrective Maintenance — (F Failure Events Only) MTTR _f :12.5 MCMM _f :6.0 Max. Observed MH: MCMM _f :18.7	rective Maintenance) al 3415 2188 Maintain	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42 Lower Limit: 35 nability Indices Corrective Maintenance — (All Ev MTTR _{cm} : 42.2 MCMM _{cm} : 9.5 Max. Observed MH: 52 MCMM _{cm} : 63.3	o 6
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Interva Upper Limit: 2 Lower Limit: 2 Corrective Maintenance — (F Failure Events Only) MTTR _f : 12.5 MCMM _f : 6.0 Max. Observed MH:	rective Maintenance) al 3415 2188 Maintain	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42 Lower Limit: 35 nability Indices Corrective Maintenance — (All Ev MTTR _{cm} : 42.2 MCMM _{cm} : 9.5 Max. Observed MH: 52	o 6
Mean Time Between Failure (Forced Shutdown Corn MTBCM _f : 2717 90% Confidence Interva Upper Limit: 2 Lower Limit: 2 Corrective Maintenance — (F Failure Events Only) MTTR _f : 12.5 MCMM _f : 6.0 Max. Observed MH: 18.7	rective Maintenance) al 3415 2188 Maintain Forced Shutdown	Mean Time Between Corrective M MTBCM: 386 90% Confidence Interval Upper Limit: 42 Lower Limit: 35 nability Indices Corrective Maintenance — (All Ev MTTR _{cm} : 42.2 MCMM _{cm} : 9.5 Max. Observed MH: 52 MCMM _{cm} : 63.3	o 6

General Description: Engine DSL 4 490	2NM 127HP 1800RPM CCW Elec Pur Supply S
CID/APL Number(s): 666010052	Federal Stock Number: None *(1) Delec 60KW
Equipment Identification Code: A100	
Technical Manual: 361-1351	The second of th
Manufacturer: 72582 Detroit Diesel En	ngine Div of General Motors Corp.
1	Basic Data
Shin Population, MSO 1137 1166 1188 1100 5	08,521 Equip. Population/Ship: 1 ea/MSO;
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.07, B=0.00,	
Total Equip. Operating Time (hours): 2566	
	Corrective Maintenance Events (CM):58
Maintenance Factors:0.67	Total CM Repair Man-Hours:2018
Kelia	ability Indices **
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	T nests english energy and the T or
(Forced Shutdown Corrective Maintenance)	T nests english energy and the T or
(Forced Shutdown Corrective Maintenance) MTBCM _f : 183 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 183	Mean Time Between Corrective Maintenance MTBCM: 44
(Forced Shutdown Corrective Maintenance) MTBCM _f : 183 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :183 90% Confidence Interval Upper Limit:303 Lower Limit:117	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval Upper Limit: 56
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval Upper Limit: 56 Lower Limit: 36
(Forced Shutdown Corrective Maintenance) MTBCM _f :183	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval Upper Limit: 56 Lower Limit: 36
(Forced Shutdown Corrective Maintenance) MTBCM _f : 183 90% Confidence Interval Upper Limit: 303 Lower Limit: 117 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 21.8	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval Upper Limit: 56 Lower Limit: 36 Lower Limit: 44 Annability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :183	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval Upper Limit: 56 Lower Limit: 36 Lower Limit: 40 MTTR _{cm} : 23.2 MCMM _{cm} : 4.0
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval Upper Limit: 56 Lower Limit: 36 Lower Limit: 40 MTTR _{cm} : 23.2 MCMM _{cm} : 4.0 Max. Observed MH: 578
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 44 90% Confidence Interval Upper Limit: 56 Lower Limit: 36 Lower Limit: 40 MTTR _{cm} : 23.2 MCMM _{cm} : 4.0 Max. Observed MH: 578
(Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

General Description:	Engine DSL	4 4901	ANM 1	27HP 1800	RMP	CCW	
CID/APL Number(s):	666010106		Federal S	tock Number:	None	*(1)	COLUMN TO SERVICE STATE OF THE
Equipment Identification (Code: Al	.00				TROUBLES	
Technical Manual: 361-	1432				-		
Manufacturer: 72582 D	etroit Dies	el Engi	ne Div	of General	Motor	s Corp.	
MSC 1	98,199,205,	206. Basic	Data				
Ship Population: 207,2	08.209:		Equi	n Population/S	Ship: 2	ea/MSC	:
Equip. Population in Data	Rase: 14		Data	Assessment Pe	riod: 7/	1/67 - 6	5/30/
Utilization Factors: _S:							Actions
Total Equip. Operating Tir					784	The period	mac.
Total Number of: Failu	res (CM _f):	31	Corrective	Maintenance	Events (C	M):22	22
Total CM _f Repair Man-Hor	urs: 569		Total CM	Repair Man-He	ours:	7682	
Maintenance Factors:	0.67		10				
*							
Mean Time Between Failur	re		Mean Tin	ne Between Cor	rective M	aintenance	
Mean Time Between Failur (Forced Shutdown Co		ance)	Mean Tin	ne Between Cor	rective M	aintenance	
(Forced Shutdown Co		nance)	Mean Tin		rective M	aintenance	
	orrective Mainter	nance)	MTBCM:		rad	aintenance	
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit:	rval 4109	ance)	MTBCM:	415 Confidence Int	erval 466		ii sadi. Busan
(Forced Shutdown Co	rval 4109	aanœ)	MTBCM:	415 Confidence Int	erval 466		ii nedi bunor
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit:	rval 4109	ance)	MTBCM:	415 Confidence Int	erval 466		Seed busined business of the seed of the s
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit:	rval 4109	est and a session of the session of	MTBCM:	415 Confidence Int Upper Limit: Lower Limit:	erval 466		ther it is a second of the sec
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit: Lower Limit:	rval 4109 2204	Maintainal	MTBCM: 90%	415 Confidence Int Upper Limit: Lower Limit:	zerval 466 372		See S could be of 18 Oc Oc Do
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance —	rval 4109 2204	Maintainal	MTBCM: 90%	415 Confidence Int Upper Limit: Lower Limit:	zerval 466 372		Stee Silver Silv
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only)	rval 4109 2204	Maintainal	MTBCM: 90% bility Indic Corrective	415 Confidence Int Upper Limit: Lower Limit: es e Maintenance	zerval 466 372		il med busso sid sid sid seq
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance —	rval 4109 2204	Maintainal	MTBCM: 90% bility Indic Corrective MTTR _{cm} MCMM _{cm}	415 Confidence Int Upper Limit: Lower Limit: es Maintenance	erval 466 372 — (All Ev	ents)	Street, busses of the party of
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 12.2 MCMM _f : 3.4 Max. Observed MH:	rval 4109 2204	Maintainal	MTBCM: 90% Dility Indic Corrective MTTR _{cm} MCMM _{cn} Max	415 Confidence Int Upper Limit: Lower Limit: es e Maintenance : 23.1 1.24.8 . Observed MH	erval 466 372 — (All Ev		Second Second SO SS SO SS SO SS SO SS so
(Forced Shutdown Commander 1974 90% Confidence Intervented Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :	rval 4109 2204 (Forced Shutdov	Maintainal	MTBCM: 90% Dility Indic Corrective MTTR _{cm} MCMM _{cn} Max MCMM _{cn}	Confidence Interpretation Upper Limit: Lower Limit: es Maintenance 23.1 4.8 Observed MH 34.6	2erval 466 372 - (All Ev	ents)	E math buser (C) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C)
(Forced Shutdown Co MTBCM _f : 2974 90% Confidence Inter Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f : 12.2 MCMM _f : 3.4 Max. Observed MH:	rval 4109 2204 (Forced Shutdov	Maintainal	MTBCM: 90% Dility Indic Corrective MTTR _{cm} MCMM _{cn} Max MCMM _{cn}	415 Confidence Int Upper Limit: Lower Limit: es e Maintenance : 23.1 1.24.8 . Observed MH	2erval 466 372 - (All Ev	ents)	in media bears and set and and set
(Forced Shutdown Commander 1974 90% Confidence Intervented Upper Limit: Lower Limit: Corrective Maintenance — Failure Events Only) MTTR _f :	rval 4109 2204 (Forced Shutdov	Maintainal vn	MTBCM: 90% Dility Indic Corrective MTTR _{cm} MCMM _{cn} Max MCMM _{cn} Vari	Confidence Interpretation Upper Limit: Lower Limit: es Maintenance 23.1 4.8 Observed MH 34.6	2erval 466 372 - (All Ev	ents)	bundani di

	ngine USL 0	6-71RC 690	2NM_ 160		BOORPM CO	;W
CID/APL Number(s): 6	66010114	Federal S	Stock Number	r: No	one *(1)	index districts
Equipment Identification Co						Dank Cares
Technical Manual: 361-	1622	3 3 50 60 50				190/1000
Manufacturer: 72582 De	etroit Diese	l Engine Div	of Gene	ral Mo	otors Cor	.
	Possibility of Blidge	Basic Data		0	on Arga.	2 4450
MSC 289,290; MSC Ship Population: 438,466	0 426,432,43 6 488 400 50	5,437,			ea/MSC;	
Equip Population in Data B	25,400,490,50	Equ	ip. Populatio	n/Ship:	except -	C (20 (60
Equip. Population in Data B Utilization Factors: MSC/S	• A-0 60 B-	FO C-O O MS	Assessment	Period:	7/1/67 -	6/30/69
Total Equip. Operating Time			DU/D: H=U	-U0, B	=1.00, G	=0.0,
Total Number of: Failure			a Maintenana	o Frant	(CM). 1	60
Total CM _f Repair Man-Hour			Repair Man	-Hours:	4278	
Maintenance Factors:	0.07	a consultant				
Mean Time Between Failure (Forced Shutdown Corn			ne Between C	Correctiv	e Maintenand	te state of
MTBCM _f : 1387	rective Maintenand	Mean Time) MTBCM:	ne Between C	le le	e Maintenand	ce
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva	rective Maintenand	Mean Time) MTBCM:	277 Confidence	Interval	getti, sonos Signi, i	The ments of the m
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1	rective Maintenand	Mean Time) MTBCM: 90%	277 Confidence I	Interval	_ 318	De Maria
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva	rective Maintenand	Mean Time) MTBCM: 90%	277 Confidence	Interval	_ 318	THE HERE OF THE PARTY OF T
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1	rective Maintenand	Mean Time) MTBCM: 90%	277 Confidence I Upper Limit	Interval	_ 318	
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1	rective Maintenand	Mean Time) MTBCM: 90%	277 Confidence I Upper Limit	Interval:	318 243	
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (Forcetive Maintenance — (Forcetive Specific Pailure Events Only)	rective Maintenand	Mean Time) MTBCM: 90% Intainability Indices	277 Confidence I Upper Limit Lower Limit	Interval : :	318 243	THE HERE OF THE PARTY OF T
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (Formation of the cornective Maintena	rective Maintenand	Mean Time) MTBCM: 90% Intainability Indice Corrective	277 Confidence I Upper Limit Lower Limit es Maintenance	Interval:	318 243	
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1 Lower Limit: 1 Lower Limit: 1 Corrective Maintenance — (Formation of the second	rective Maintenandal al .906 .033 Ma	Mean Time) MTBCM: 90% Intainability Indice Corrective MTTR _{cm} : MCMM _{cm}	277 Confidence I Upper Limit Lower Limit es Maintenance 17.	Interval : :	318 243 Events)	
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (Foreigner Events Only) MTTR _f : 4.7 MCMM _f : 3.0 Max. Observed MH:	rective Maintenandal al .906 .033 Ma	Mean Time) MTBCM: 90% Intainability Indice Corrective MTTR _{cm} : MCMM _{cm} Max.	277 Confidence I Upper Limit Lower Limit es Maintenance 17. 14. Observed M	Interval:	318 243 Events)	
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (Foreign Events Only) MTTR _f : 4.7 MCMM _f : 3.0 Max. Observed MH: 1 MCMM _f : 7.0	rective Maintenandal al .906 .033 Ma	Mean Time) MTBCM: 90% Intainability Indice Corrective MTTR _{cm} MCMM _{cm} Max. MCMM _{cm}	277 Confidence I Upper Limit Lower Limit es Maintenance 17. 14. Observed Mi 126.	Interval : : E — (All 8 5	318 243 Events)	
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (Formation of the cornective Maintena	rective Maintenandal al .906 .033 Ma	Mean Time) MTBCM: 90% Intainability Indice Corrective MTTR _{cm} MCMM _{cm} Max. MCMM _{cm}	277 Confidence I Upper Limit Lower Limit es Maintenance 17. 14. Observed M	Interval : : E — (All 8 5	318 243 Events)	
(Forced Shutdown Corn MTBCM _f : 1387 90% Confidence Interva Upper Limit: 1 Lower Limit: 1 Corrective Maintenance — (Foreign Events Only) MTTR _f : 4.7 MCMM _f : 3.0 Max. Observed MH: 1 MCMM _f : 7.0	Manual Maintenance	Mean Time MTBCM: 90% Intainability Indice Corrective MTTR _{cm} : MCMM _{cm} Max. MCMM _{cm} Varia	277 Confidence I Upper Limit Lower Limit es Maintenance 17. 14. Observed Mi 126.	Interval:	318 243 Events)	ce and a second

General Description: Purifier, CTF	GL LØ 125GPH
	Federal Stock Number: None*(1)
Equipment Identification Code:	1G44
Technical Manual: 0945-003-1000	The particular of the particular and the particular
Manufacturer: 54370 Pennsalt Ch	emicals Corp., Equipment Division
	FIGURE CHARGE TO SERVING CARREST
	Basic Data
IST 1076 1077 1	082**(2) Equip. Population/Ship: 1 ea/LST
	그리는 그 그 이 사람들이 되었다. 그는 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그
Equip. Population in Data Base: Utilization Factors: S: A=0.50, B=0.	
Total Equip. Operating Time (hours):	
Total Number of: Failures (CMs):	Corrective Maintenance Events (CM): _83
	Total CM Repair Man-Hours: 743
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintena	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintena MTBCM _f : 1190 90% Confidence Interval	MTBCM: 458 90% Confidence Interval
(Forced Shutdown Corrective Maintena MTBCM _f : 1190 90% Confidence Interval Upper Limit: 1635	MTBCM: 458 90% Confidence Interval Upper Limit: 555
(Forced Shutdown Corrective Maintena MTBCM _f : 1190 90% Confidence Interval	MTBCM: 458 90% Confidence Interval
(Forced Shutdown Corrective Maintena MTBCM _f : 1190 90% Confidence Interval Upper Limit: 1635 Lower Limit: 886	MTBCM: 458 90% Confidence Interval Upper Limit: 555
(Forced Shutdown Corrective Maintena MTBCM _f : 1190 90% Confidence Interval Upper Limit: 1635 Lower Limit: 886	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices
(Forced Shutdown Corrective Maintena MTBCM _f :	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices
(Forced Shutdown Corrective Maintena MTBCM _f :	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintena MTBCM _f : 1190 90% Confidence Interval Upper Limit: 1635 Lower Limit: 886 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 8.4	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.0
(Forced Shutdown Corrective Maintena MTBCMf:	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.0 MCMM _{cm} : 3.0
(Forced Shutdown Corrective Maintena MTBCMf: 1190 90% Confidence Interval 1635 Upper Limit: 886 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.4 MCMMf: 4.3 Max. Observed MH: 102	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.0 MCMM _{cm} : 3.0 Max. Observed MH: 102
(Forced Shutdown Corrective Maintena MTBCMf: 1190 90% Confidence Interval 1635 Upper Limit: 886 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.4 MCMMf: 4.3 Max. Observed MH: 102 MCMMf: 12.6	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.0 MCMM _{cm} : 3.0 Max. Observed MH: 102 MCMM _{cm} : 9.0
(Forced Shutdown Corrective Maintena MTBCMf: 1190 90% Confidence Interval 1635 Upper Limit: 886 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.4 MCMMf: 4.3 Max. Observed MH: 102	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.0 MCMM _{cm} : 3.0 Max. Observed MH: 102 MCMM _{cm} : 9.0 Variance: 322
(Forced Shutdown Corrective Maintena MTBCMf: 1190 90% Confidence Interval 1635 Upper Limit: 886 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 8.4 MCMMf: 4.3 Max. Observed MH: 102 MCMMf: 12.6	MTBCM: 458 90% Confidence Interval Upper Limit: 555 Lower Limit: 382 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.0 MCMM _{cm} : 3.0 Max. Observed MH: 102 MCMM _{cm} : 9.0
(Forced Shutdown Corrective Maintena MTBCM _f :	MTBCM:

	Equ	uipment Identification
Noun Name: Purifi	ier, Fuel Oil	, Sharples
General Description: Pu	urifier, CTFG	L FØ 150 GFH
CID/APL Number(s):76	50010002	Federal Stock Number: None* (1)
Equipment Identification (Code:	1F30
Technical Manual: 09	945-003-1000	
Manufacturer:5 ¹	4370 Pennsalt	Chemicals Corp., Equipment Division
		Basic Data
Ship Population: LST 10	032, 1073, 107	0.76 * (2) Equip. Population/Ship: 1 ea/LST; except
		13 Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S:		
Total Equip. Operating Tin	110	2388
Total Number of: Failur		Corrective Maintenance Events (CM): 188
Total CM _f Repair Man-Hou	urs: 99:	Total CM Repair Man-Hours: 2110
Maintenance Factors:	^	0.67
	re	Reliability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failur (Forced Shutdown Co	re	Mean Time Between Corrective Maintenance
(Forced Shutdown Co	re orrective Maintenanc	Mean Time Between Corrective Maintenance
(Forced Shutdown Co MTBCM _f : 662 90% Confidence Inter	re orrective Maintenanc val	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval
(Forced Shutdown Co	re orrective Maintenand 	Mean Time Between Corrective Maintenance (ce) MTBCM: 225
(Forced Shutdown Co MTBCM _f : 662 90% Confidence Inter Upper Limit: 8	re orrective Maintenanc val 24	Mean Time Between Corrective Maintenance MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200
(Forced Shutdown Co MTBCM _f : 662 90% Confidence Inter Upper Limit: 8 Lower Limit: 5	re prrective Maintenance val 24 38	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200
(Forced Shutdown Co MTBCM _f : 662 90% Confidence Inter Upper Limit: 86 Lower Limit: 5	re prrective Maintenance val 24 38	Mean Time Between Corrective Maintenance MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200
(Forced Shutdown Companies	re prrective Maintenance val 24 38	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200 Jaintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Compact Shutdown Compac	re prrective Maintenance val 24 38	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200 Anintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5
(Forced Shutdown Comparison of Shutdown Comparison of Shutdown Comparison of Shutdown Comparison of Shutdown Limit: 50 Corrective Maintenance — (Failure Events Only) MTTR _f : 10.3 MCMM _f : 2.2	re orrective Maintenance val 24 38 Ma	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200 Anintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5 MCMM _{cm} : 2.0
(Forced Shutdown Compact of Shutdown Limit: 50 Corrective Maintenance — (Failure Events Only) MTTR _f : 10.3 MCMM _f : 2.2 Max. Observed MH:	re orrective Maintenance val 24 38 Ma	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5 MCMM _{cm} : 2.0 Max. Observed MH: 335
(Forced Shutdown Compact MTBCMf: 662 90% Confidence Inter Upper Limit: 5 Lower Limit: 5 Corrective Maintenance — (Failure Events Only) MTTRf: 10.3 MCMMf: 2.2 Max. Observed MH: 15.5	re corrective Maintenance rval 24 38 Ma (Forced Shutdown	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5 MCMM _{cm} : 2.0 Max. Observed MH: 335 MCMM _{cm} : 11.2
(Forced Shutdown Compact of Shutdown Limit: 50 Corrective Maintenance — (Failure Events Only) MTTR _f : 10.3 MCMM _f : 2.2 Max. Observed MH:	re corrective Maintenance rval 24 38 Ma (Forced Shutdown	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5 MCMM _{cm} : 2.0 Max. Observed MH: 335
(Forced Shutdown Compact MTBCMf: 662 90% Confidence Inter Upper Limit: 5 Lower Limit: 5 Corrective Maintenance — (Failure Events Only) MTTRf: 10.3 MCMMf: 2.2 Max. Observed MH:	re corrective Maintenance rval 24 38 Ma (Forced Shutdown	Mean Time Between Corrective Maintenance (ce) MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5 MCMM _{cm} : 2.0 Max. Observed MH: 335 MCMM _{cm} : 11.2
(Forced Shutdown Compact of Shutdown Confidence Intervented Upper Limit: \$\frac{90}{5}\$ Lower Limit: \$\frac{5}{5}\$ Corrective Maintenance - (Failure Events Only) MTTR _f : \$\frac{10.3}{4}\$ MCMM _f : \$\frac{2.2}{5.5}\$ Variance: \$\frac{15.5}{2149}\$	re prective Maintenance val 24 38 Ma (Forced Shutdown 335	Mean Time Between Corrective Maintenance MTBCM: 225 90% Confidence Interval Upper Limit: 255 Lower Limit: 200 Anintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.5 MCMM _{cm} : 2.0 Max. Observed MH: 335 MCMM _{cm} : 11.2 Variance: 1175 Normal Log Normal X

Noun Name: Purifier, Lube Oil, Shan	rples
General Description: Purifier, CTFGL LØ	200 GPH
CID/APL Number(s): 760010016	Federal Stock Number: None*(1)
Equipment Identification Code:	
Technical Manual: 345-0075 and 345-014	8
Manufacturer: 54370 Pennsalt Chemi	cals Corp., Equipment Division
Basi	e Data
ATT (7 70 76 0h 06 x	(×(0)
Ship Population: ATF 67, 72, 76, 84, 86,	Equip. Population/Ship: 1 ea/ATF;
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.05. B=0.20. C=0	0.0
Total Equip. Operating Time (hours): 40346	11.7
Total Number of: Failures (CM _f): 8	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 386	Total CM Repair Man-Hours: 543
Maintenance Factors: 0.6	7
Reliabil	ity Indices
	u Senan
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 5043	MTBCM: 984
90% Confidence Interval	90% Confidence Interval
Upper Limit: 10135	Upper Limit:1299
Lower Limit: 2795	Lower Limit: 758
upuluu (II Elilia i seesa sevos	
Maintaina	bility Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :32.1	MTTR _{cm} : 8,8
MCMM _f :6.5	MCMM _{cm} : 4.0
Max. Observed MH: 329	Max. Observed MH: 329
MCMM _f : 48.2	MCMM _{cm} : 13.3
Variance: 12917	Variance: 2579
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID-LØ Spec. No. 344	-391. **(2) 92. 156.
-REMARKS: 11 15-16 SUCC. NO.)TT	

Noun Name: Purifier, Fuel Oil; S	narples COO CDU
General Description: Purifier, CTFGL	
	Federal Stock Number: None*(1)
squipment identification code.	F30
Technical Manual: 345-0075	3 Company Division
Manufacturer: 54370 Pennsalt Chemic	eals Corp., Equipment Division
	Basic Data
Ship Population: ATF 67, 76, 84, 86, 9	2; Equip. Population/Ship: 1 ea/ATF;
Equip. Population in Data Base:	5 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A= 0.60, B= 0.	15, C=0.0
Total Equip. Operating Time (hours):	21958
Total Number of: Failures (CM _f): 10	Corrective Maintenance Events (CM):46
	Total CM Repair Man-Hours: 509
Maintenance Factors: 0.67	
	iability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2195 90% Confidence Interval Upper Limit: 4047	Mean Time Between Corrective Maintenance MTBCM: 477 90% Confidence Interval Upper Limit: 620
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2195 90% Confidence Interval Upper Limit: 4047 Lower Limit: 1294	Mean Time Between Corrective Maintenance MTBCM: 477 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2195 90% Confidence Interval Upper Limit: 4047 Lower Limit: 1294 Maintenance	Mean Time Between Corrective Maintenance MTBCM: 477 90% Confidence Interval Upper Limit: 620 Lower Limit: 373
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2195 90% Confidence Interval Upper Limit: 4047 Lower Limit: 1294 Maintenance	Mean Time Between Corrective Maintenance MTBCM: 477 90% Confidence Interval Upper Limit: 620 Lower Limit: 373 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2195 90% Confidence Interval Upper Limit: 4047 Lower Limit: 1294 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 477 90% Confidence Interval Upper Limit: 620 Lower Limit: 373 tainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 477 90% Confidence Interval Upper Limit: 620 Lower Limit: 373 tainability Indices Corrective Maintenance – (All Events) MTTR _{cm} : 7.4 MCMM _{cm} : 2.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 477 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 477 90% Confidence Interval Upper Limit: 620 Lower Limit: 373 tainability Indices Corrective Maintenance – (All Events) MTTR _{cm} : 7.4 MCMM _{cm} : 2.0 Max. Observed MH: 133 MCMM _{cm} : 11.1
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 477 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 477 90% Confidence Interval Upper Limit: 620 Lower Limit: 373 tainability Indices Corrective Maintenance – (All Events) MTTR _{cm} : 7.4 MCMM _{cm} : 2.0 Max. Observed MH: 133 MCMM _{cm} : 11.1

General Description: Purifier, CTFGL	TA 200 CPH	
CID/APL Number(s): 760010018	Federal Stock Number: None*(1)	
	1G44	
Equipment Identification Code:		
Manufacturer: 54370 Pennsalt Chemic	anla Comp Fauinment Division	
Manufacturer:	cais corp., Equipment Division	
	Basic Data	
Ship Population: ATF 96, 98, 100, 101	**(2) Equip. Population/Ship: 1 ea/A	TF
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67	- 6/30/6
Utilization Factors: S: A=0.85, B=0.20,	C=0.0	
Total Equip. Operating Time (hours):	45403	
Total Number of: Failures (CM _f): 8	Corrective Maintenance Events (CM):	33
Total CM _f Repair Man-Hours:17		
Maintenance Factors:0.67	Total On he pair man-nous.	
Maintenance ractors.		
Reli Mean Tìme Between Failure	iability Indices Mean Time Between Corrective Maintena	ince
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 5675 90% Confidence Interval Upper Limit: 11405	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval Upper Limit: 1880	ince
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:11405 Lower Limit:3145	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval Upper Limit: 1880 Lower Limit: 1029	ince
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:11405 Lower Limit:3145	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval Upper Limit: 1880 Lower Limit: 1029 tainability Indices	ince traff make bestod) 100
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:11405 Lower Limit:3145	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval Upper Limit: 1880 Lower Limit: 1029	ince
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval	nce confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi confi conf
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval	ince mail mail mail mail mail mail mail mail ma
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval Upper Limit: 1880 Lower Limit: 1029 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.2 MCMM _{cm} : 2.0	ince scall neals bestoll state
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval	ince mail mail mail mail mail mail mail mail ma
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintena MTBCM: 1375 90% Confidence Interval Upper Limit: 1880 Lower Limit: 1029 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.2 MCMM _{cm} : 2.0	I tenti mala Serosi) — SEORTH — SEORTH All SEIGHNESS — SEIGHN — SEIGHN
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 1375 90% Confidence Interval Upper Limit: 1880 Lower Limit: 1029 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.2 MCMM _{cm} : 2.0 Max. Observed MH: 15 MCMM _{cm} : 3.2 Variance: 11.4	Normal

Noun Name: Purifier, Fuel Oil, Shar General Description: Purifier, CTFGL FØ CID/APL Number(s): 760010019 Equipment Identification Code: 1F30 Technical Manual: 345-0074 and 345-014 Manufacturer: 54370 Pennsalt Chemicals	Pederal Stock Number: None* (1)
Equipment Identification Code: 1F30 Technical Manual: 345-0074 and 345-014	3
Equipment Identification Code: 1F30 Technical Manual: 345-0074 and 345-014 Manufacturer: 54370 Pennsalt Chemicals	3 Comp Equipment Division
Technical Manual: 345-0074 and 345-014 Manufacturer: 54370 Pennsalt Chemicals	Comp. Fauinment Division
Manufacturer: 54370 Pennsalt Chemicals	Corn Fauinment Division
	corp., Equipment Division
Basic	Data
ATF 96, 98, 100, 101, 103 Ship Population: 105, 114	,
Ship Population: 105, 114	Youip. Population/Ship: 1 ea/ATF Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base: Utilization Factors: S: A=0.60, B= 0.15,	Data Assessment Period: 7/1/07 - 0/30/09
	5- 0 . 0
Total Equip. Operating Time (hours): 27608 Total Number of: Failures (CM _f): 11	Corrective Maintenance Events (CM): 55
Total CM _f Repair Man-Hours:33	Total CM Repair Man-Hours:180
Maintenance Factors:0.67	
90% Confidence Interval Upper Limit: 4475 Lower Limit: 1516	MTBCM:
Maintainab	ility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 2.0	MTTR _{cm} :2_2
MCMM _f : 1.3	MCMM _{cm} : 1.5
Max. Observed MH:9	Max. Observed MH:17
MCMM _f :3.0	MCMM _{cm} :3_3
Variance:	Variance: 14
	and an incommentation of the state of the st
Indicated Distribution(s): Exponential	
	and 3N-73;

General Description: Purliler.	CTFGL FO	Ø 450GPH x IØ 375GPH	
CID/APL Number(s): 760010030) **	Federal Stock Number: 2H4330-6	40-592
Equipment Identification Code:		30	
Technical Manual: 345-0362		LEGIS Laboration	and the say
Manufacturer: 54370 Pennsal	t Chemical	Ls Corp., Equipment Division	<u>n 188 (199</u>
	Basi	ic Data	
Shin Benulation, IST 1157, 116	56. 1167*(]	Equip. Population/Ship: 2 ea/1	LST:
Equip. Population in Data Base:		Data Assessment Period: 7/1/67	- 6/
Utilization Factors: S: A=0.50.			٠,٠
Total Equip. Operating Time (hours):	3	5791	and make
Total Number of Failures (CMa):	21	Corrective Maintenance Events (CM): _	63
	0 67	Total CM Repair Man-Hours:	2090
Maintenance Factors:	0.01		
	Polishi	lity Indices	
	Кепяон	ity muces	
Mean Time Between Failure		Mean Time Between Corrective Mainter	nance
(Forced Shutdown Corrective Ma	aintenance)	Salaki seret	
	nintenance)	мтвсм: <u>568</u>	
MTBCM _f : 1704 90% Confidence Interval	aintenance)	-60	
MTBCM _f : 1704 90% Confidence Interval	aintenance)	мтвсм :568	Time Re Frances States
MTBCM _f : 1704 90% Confidence Interval	nintenance)	MTBCM: 568 90% Confidence Interval	Neo Se complete complete complete
90% Confidence Interval Upper Limit: 2544	(\$\hat{A} \text{Tell}(\$\	MTBCM: 568 90% Confidence Interval Upper Limit: 708 Lower Limit: 461	if out!
90% Confidence Interval Upper Limit: 2544	(\$\hat{A} \text{Tell}(\$\	MTBCM: 568 90% Confidence Interval Upper Limit: 708	ti ouif
90% Confidence Interval Upper Limit: 2544 Lower Limit: 1184 Corrective Maintenance — (Forced Short	Maintains	MTBCM: 568 90% Confidence Interval Upper Limit: 708 Lower Limit: 461	if out!
MTBCM _f : 1704 90% Confidence Interval Upper Limit: 2544 Lower Limit: 1184 Corrective Maintenance — (Forced Shorts Failure Events Only)	Maintains	90% Confidence Interval Upper Limit: 708 Lower Limit: 461 ability Indices Corrective Maintenance — (All Events)	Hood Street
MTBCM _f : 1704 90% Confidence Interval Upper Limit: 2544 Lower Limit: 1184 Corrective Maintenance — (Forced She Failure Events Only) MTTR _f : 26.4	Maintains	MTBCM:568 90% Confidence Interval Upper Limit:708 Lower Limit:461 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} :30.6	is court is constituted to the court is con
MTBCM _f : 1704 90% Confidence Interval Upper Limit: 2544 Lower Limit: 1184 Corrective Maintenance — (Forced Short Failure Events Only) MTTR _f : 26.4 MCMM _f : 3.5	Maintains utdown	MTBCM:568 90% Confidence Interval Upper Limit:708 Lower Limit:461 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} :30.6 MCMM _{cm} :3.0	Time Si complete complet
MTBCM _f : 1704 90% Confidence Interval Upper Limit: 2544 Lower Limit: 1184 Corrective Maintenance — (Forced Short Failure Events Only) MTTR _f : 26.4 MCMM _f : 3.5 Max. Observed MH: 423	Maintains utdown	MTBCM:	es confi commit commit esca esca esca esca esca esca esca esca
MTBCM _f : 170 ⁴ 90% Confidence Interval Upper Limit: 25 ⁴⁴ Lower Limit: 1184 Corrective Maintenance — (Forced Short Failure Events Only) MTTR _f : 26.4 MCMM _f : 3.5 Max. Observed MH: 423 MCMM _f : 39.6	Maintains utdown	MTBCM:568 90% Confidence Interval Upper Limit:708 Lower Limit:461 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} :30.6 MCMM _{cm} :3.0 Max. Observed MH:874 MCMM _{cm} :45.0	Theo Si Company Sign (Sign Sign (Sign (Sign Sign (Sign Sign (Sign (Sign Sign (Sign (Sign (Sign (Sign Sign (Sign (
MTBCM _f : 1704 90% Confidence Interval Upper Limit: 2544 Lower Limit: 1184 Corrective Maintenance — (Forced Short Failure Events Only) MTTR _f : 26.4 MCMM _f : 3.5 Max. Observed MH: 423	Maintains utdown	MTBCM:	Hand State of the control of the con
MTBCM _f : 170 ⁴ 90% Confidence Interval Upper Limit: 25 ⁴⁴ Lower Limit: 1184 Corrective Maintenance — (Forced Shuffailure Events Only) MTTR _f : 26.4 MCMM _f : 3.5 Max. Observed MH: 423 MCMM _f : 39.6	Maintains	MTBCM:568 90% Confidence Interval Upper Limit:708 Lower Limit:461 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} :30.6 MCMM _{cm} :3.0 Max. Observed MH:874 MCMM _{cm} :45.0 Variance:20307	y Norma

Noun Name: Purifier, Lube 0	il, Sharples
General Description: Purifier, CT	FGL FØ 450GPH x IØ 375GPH
CID/APL Number(s): 760010030	Federal Stock Number: 2H4330-640-5926
Equipment Identification Code:	1G44_
Technical Manual: 345-0362	to Applicate Control Control of C
	t Chemicals Corp., Equipment Division
	entranet.
	Basic Data
Ship Population: LST 1157, 1166.	1167,*(1) Equip. Population/Ship: 2 ea/IST
Equip Population in Data Rase:	10 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.50, B=0	
Total Equip. Operating Time (hours):	
	22 Corrective Maintenance Events (CM): 60
Total CMs Repair Man-Hours:	150 Total CM Repair Man-Hours: 635
Maintenance Factors:	
90% Confidence Interval Upper Limit: 2546 Lower Limit: 1207	MTBCM:631 90% Confidence Interval Upper Limit:510
	Maintainability Indices
Corrective Maintenance — (Forced Shutdow	Corrective Maintenance — (All Events)
Failure Events Only)	MARTIN E.SS STEEL
MTTR _f : 4.5	MTTR _{cm} : 7.1
MCMM _f : 2.1 Max. Observed MH: 54	MCMM _{cm} :
Max. Observed MH: 54	Max. Observed MH:288
Variance: 143	MCMM _{cm} : 10.6 Variance: 1415
Indicated Distribution (s): Exponential _	Normal Log Normal
*REMARKS: *(1) 1168, 1169.	THE RESERVE THE PROPERTY OF TH

Noun Name: Purifier, Fuel Oil, S General Description: Purifier CTFGL,	
CID/APL Number(s): 760010033 ** Equipment Identification Code: A.	Tell
Technical Manual: 345-0413	A CONTRACTOR OF THE STATE AND A CONT
Manufacturer: 54370 Pennsalt Chemic	cals Corp., Equipment Division
Manufacturer:	
	Basic Data
Ship Population: DLG 8, 9, 10, 11, 14	Equip. Population/Ship: 1 ea/DLG
Equip. Population in Data Base:5	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: S: A=0.01, B=0.01,	C=0.0
Total Equip. Operating Time (hours): 616	The second secon
Total Number of: Failures (CM _f): 7	Corrective Maintenance Events (CM):19
Total CM - Repair Man-Hours: 40.6	Total CM Repair Man-Hours: 126
Maintenance Factors: 0.67	
Reli	ability Indices
	11 (41 (12 (14 (14 (14 (14 (14 (14 (14 (14 (14 (14
Reli Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	ability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	11 (41 (12 (14 (14 (14 (14 (14 (14 (14 (14 (14 (14
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 88 90% Confidence Interval	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit: 188	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval Upper Limit: 50
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 88 90% Confidence Interval Upper Limit: 188 Lower Limit: 47	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval Upper Limit: 50
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 88 90% Confidence Interval Upper Limit: 188 Lower Limit: 47	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval Upper Limit: 50 Lower Limit: 22
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:188 Lower Limit:47 Mainta	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:188 Lower Limit:47 Maintenance Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :3.9	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval Upper Limit: 50 Lower Limit: 22 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit: 188 Lower Limit: 47 Maintenance Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval Upper Limit: 50 Lower Limit: 22 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.4 MCMM _{cm} : 5.5
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval Upper Limit: 50 Lower Limit: 22 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.4 MCMM _{cm} : 5.5 Max. Observed MH: 20
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 32 90% Confidence Interval Upper Limit: 50 Lower Limit: 22 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.4 MCMM _{cm} : 5.5 Max. Observed MH: 20
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Purifier, LØ	
General Description: Purifier	CTFGL FØ 275GPH x LØ 225GPH
CID/APL Number(s): 760010033	Federal Stock Number: None*(1)
Equipment Identification Code:	
Cechnical Manual: 345-0413	
Manufacturer: 54370 Pennsal	t Chemicals Corp., Equipment Division
Ship Population: DDG 2, 5, 6,	Basic Data 7, 8, 9, **(2) Equip. Population/Ship: 1 ea/DE; ***(3) Data Assessment Period: 7/1/67 - 6/30/69
	A=0.50, B=0.10, C=0.05; DLG/S: A=0.5, B=0.1, C=0.03
	235794
	128 Corrective Maintenance Events (CM): 447
	1136 Total CM Repair Man-Hours: 3226
Mean Time Between Failure (Forced Shutdown Corrective Ma MTBCM _f : 1842 90% Confidence Interval	MTBCM: 527
(Forced Shutdown Corrective Ma	aintenance)
(Forced Shutdown Corrective Ma MTBCM _f : 1842 90% Confidence Interval Upper Limit: 2144	MTBCM: 527 90% Confidence Interval Upper Limit: 571
(Forced Shutdown Corrective Ma MTBCM _f : 1842 90% Confidence Interval Upper Limit: 2144	MTBCM: 527 90% Confidence Interval Upper Limit: 571 Lower Limit: 488 Maintainability Indices
(Forced Shutdown Corrective Ma MTBCM _f : 1842 90% Confidence Interval Upper Limit: 2144 Lower Limit: 1591	MTBCM: 527 90% Confidence Interval Upper Limit: 571 Lower Limit: 488 Maintainability Indices utdown Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Ma MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Ma MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Ma MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Ma MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Ma MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Ma MTBCM _f :	MTBCM:

	TFGL FØ 250 GPH x LØ 225GPH
CID/APL Number(s): 760010035	Federal Stock Number: 2H4330-352-0685
Equipment Identification Code:	
Technical Manual: 345-0359	got a matter of the constant
	Chemicals Corp., Equipment Division
	Basic Data
Ship Population: MSØ 462, 466, 50	08, 521 Equip. Population/Ship: 1 ea/MSO
Equip. Population in Data Base:	4 Data Assessment Period: 7/1/67 - 6/30/
Utilization Factors: S: A=0.85, B=	
Total Equip. Operating Time (hours): 15	5392
	9 Corrective Maintenance Events (CM): 25
Total CM ₆ Repair Man-Hours:1	35 O.67 Total CM Repair Man-Hours: 271
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Mainte	
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Mainte	Mean Time Between Corrective Maintenance enance)
(Forced Shutdown Corrective Mainte MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM: 615
(Forced Shutdown Corrective Mainte MTBCM _f : 1710 90% Confidence Interval	Mean Time Between Corrective Maintenance enance) MTBCM: 615 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM: 615
(Forced Shutdown Corrective Mainte MTBCM _f : 1710 90% Confidence Interval Upper Limit: 3278	Mean Time Between Corrective Maintenance enance) MTBCM:615 90% Confidence Interval Upper Limit:886 Lower Limit:441
(Forced Shutdown Corrective Mainted MTBCM _f : 1710 90% Confidence Interval Upper Limit: 3278 Lower Limit: 980	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f : 1710 90% Confidence Interval Upper Limit: 3278 Lower Limit: 980 Corrective Maintenance — (Forced Shutdom)	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f : 1710 90% Confidence Interval	Mean Time Between Corrective Maintenance enance) MTBCM:615
(Forced Shutdown Corrective Mainted MTBCM _f : 1710 90% Confidence Interval	Mean Time Between Corrective Maintenance enance) MTBCM: 615 90% Confidence Interval Upper Limit: 886 Lower Limit: 441 Maintainability Indices own Corrective Maintenance — (All Events) MTTR _{cm} : 7.2
(Forced Shutdown Corrective Mainter MTBCM _f : 1710 90% Confidence Interval	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown Corrective Mainter MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance enance) MTBCM:

- Dur	ifian Fuel	0:1	Char							
Noun Name: Pur					CDU	Ŧ	d -	755	apu	SWEET-
General Description:		CIFGL	ry	and the second second	A STATE OF THE PARTY.				GPH */7\	
CID/APL Number(s):_	700010072		AJG4		l Stock	Numbe	er:1	<i>w</i> ;	<u> ^(1)</u>	Sour F. 194
Equipment Identificati			AJG4	•					HAUTE HERE	
rechnical Manual:		<i>a</i> :								
Manufacturer: 543	70 Pennsalt	Chem	LCals	Corp) • • E	quipm	ent	Div	ision	
				Data						
Ship Population: AØ	143, 145, 1	46; *((2)	E	quip. Po	pulatio	n/Shi	ip:	l ea/A	ø *(3)
Equip. Population in I	Data Base:	7		Da	ata Ass	essment	Perio	d: 7	/1/67	- 6/30/
Utilization Factors: A	8/S: A=0.01,	B=0.0	01. (C=0.0;	LST	/S: A	=0.	50,	B=0.10	. C=0.0
Total Equip. Operating						1/0	Maria.			Lucia II
Total Number of: F	Failures (CM _f):	9		Correct	ive Mai	ntenan	ce Ev	ents ((CM):	23
Total CM _f Repair Man	-Hours:	119		Total C	M Rep	air Man	-How	rs:	3	09
Maintenance Factors:		0.67								
Mean Time Between F (Forced Shutdow				y Indice		tween (Correc	ctive	Maintenar	nce
(Forced Shutdow MTBCM _f : $\frac{1179}{}$	n Corrective Main		T-ayek	Mean T	ime Be	461		1870	Maintenar	nce
MTBCM _f : 1179 90% Confidence I	n Corrective Main		T-ayek	Mean T	ime Be	461	Inter	val		nce
(Forced Shutdow MTBCM _f : 1179 90% Confidence I Upper Limit	Interval: 2260		T-ayek	Mean T	Time Be	461 fidence	Inter	val 6	Maintenar	nce
(Forced Shutdown MTBCM $_{\mathbf{f}}$: 1179 90% Confidence I	Interval: 2260	ntenance)	V-agek Kogyria Se	Mean T MTBCN 90	ime Be /: // Conf Upp Low	461	Inter	val 6	- 575	nce
(Forced Shutdown MTBCM _f : 1179 90% Confidence I Upper Limit Lower Limit	Interval: 2260: 676	ntenance)	tain a bi	Mean T MTBCN 90	A: % Conf Uppe Low	461 Ridence er Limi er Limi	Interview t:	val 6	- 575 326	nce
(Forced Shutdown MTBCM _f : 1179 90% Confidence I Upper Limit Lower Limit	Interval : 2260 : 676	ntenance)	tain a bi	Mean T MTBCN 90	A: % Conf Uppe Low	461 Ridence er Limi er Limi	Interview t:	val 6	- 575 326	nce
(Forced Shutdown MTBCM _f : 1179 90% Confidence I Upper Limit Lower Limit Corrective Maintenance Failure Events Only	Interval : 2260 : 676	ntenance)	tainabi	Mean T MTBCN 90 ility Ind	A:	461 lidence er Limi er Limi	Intervent:	val 6	- 575 326	nce
(Forced Shutdown MTBCM _f : 1179 90% Confidence I Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTR _f : 8.8	Interval : 2260 : 676	ntenance)	tainabi	Mean T MTBCN 90 ility Ind Correct	A:	461 fidence er Limit er Limit	Intervent:	val 6	- 575 326	nce
(Forced Shutdown MTBCM _f : 1179 90% Confidence I Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTR _f : 8.8	Interval : 2260 : 676	ntenance)	tainabi	Mean T MTBCN 90 ility Ind Correct MTTR _c MCMM	Yime Be A: White Confidence Low Low Low Lices ive Main m: cm:	461 fidence er Limit er Limit	Intervent:	val 6	575 326 Events)	nce
(Forced Shutdown MTBCM _f : 1179 90% Confidence I Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTR _f : 8.8 MCMM _f : 10.0 Max. Observed MI MCMM _f : 13.2	interval : 2260 : 676 - (Forced Shute) - 57	ntenance)	tainabi	Mean T MTBCN 90 ility Ind Correct MTTR _C MCMM	Yime Be A: W Confi Upp Low lices ive Mai m: cm: ax. Obe	461 Ridence er Limiter Limiter Limiter 1000 1000 1000 1000 1000 1000 1000 10	Intervent:	All E	575 326 Events)	nce
(Forced Shutdown MTBCMf: 1179 90% Confidence I Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTRf: 8.8 MCMMf: 10.0 Max. Observed MI	interval : 2260 : 676 - (Forced Shute) - 57	ntenance)	tainabi	Mean T MTBCN 90 ility Ind Correct MTTR _C MCMM Ma MCMM	Yime Be A: W Confi Upp Low lices ive Mai m: cm: ax. Obe	idence er Limiter Limiter Limiter Limiter 13.4	Intervent:	All E	575 326 Events)	nce
(Forced Shutdown MTBCM _f : 1179 90% Confidence I Upper Limit Lower Limit Corrective Maintenance Failure Events Only MTTR _f : 8.8 MCMM _f : 10.0 Max. Observed MI MCMM _f : 13.2	Interval : 2260 : 676 - (Forced Shute) - 57	Main down	tainabi	Mean T MTBCN 90 ility Ind Correct MTTR _C MCMM Ms MCMM Va	ive Mai	idence er Limiter Limiter Limiter Limiter 13.4	Intervent:	All E	575 326 Events)	ormal
(Forced Shutdown 1179 90% Confidence I Upper Limit Lower Limit Lower Limit Lower Limit MCMMf: 8.8 MCMMf: 10.0 Max. Observed MI MCMMf: 13.2 Variance: 284	Interval : 2260 : 676 - (Forced Shute) H:57	Main down	tainabi	Mean T MTBCN 90 ility Ind Correct MTTR _C MCMM Ms MCMM Va	Yime Be A: % Confi Uppo Low lices ive Main m: cm: ax. Obse	didence er Limier Limie	Intervent:	All E	575 326 Events)	ormal

Noun Name: Purifier, Lube Oil, Sha General Description: Purifier, CTFGL F	Ø 450 GPH x LØ 375GPH
CID/APL Number(s): 760010052	Foderal Stock Number: Id: *(1)
는 마음이 있는 것이 되었다. 그런 사람들은 보고 있는 것이 되었다. 그런 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은	THE PROCE NUMBER.
Equipment Identification Code	
Technical Manual: 345-0410	la Com Fauinment Division
Manufacturer: 54370 Pennsalt Chemica	ls Corp., Equipment Division
Bas	sic Data
Ship Population: AØ 143, 145, 146**(2)	Equip. Population/Ship: 1 ea/AØ 2 ea
Equip Population in Data Base: 9	Data Assessment Period: 7/1/67 - 6/30
Utilization Factors: AO/IST- S: A=0.50. B=	0.10, C=0.05
Total Equip. Operating Time (hours):	
Total Number of: Failures (CMa): 37	_ Corrective Maintenance Events (CM):101
Total CM _f Repair Man-Hours: 500 Maintenance Factors: 0.67	_ Total CM Repair Man-Hours:939
Maintenance Factors:	
(D. 10) 11 (Competing Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	lio7
MTBCM _f : 1358	MTBCM: 497
MTBCM _f : 1358 90% Confidence Interval	MTBCM: 497 90% Confidence Interval
MTBCM _f : 1358 90% Confidence Interval Upper Limit: 1821	MTBCM: 497 90% Confidence Interval Upper Limit: 591
MTBCM _f : 1358 90% Confidence Interval	MTBCM: 497 90% Confidence Interval
90% Confidence Interval Upper Limit: 1821 Lower Limit: 1032	MTBCM: 497 90% Confidence Interval Upper Limit: 591 Lower Limit: 422
90% Confidence Interval Upper Limit: 1821 Lower Limit: 1032	MTBCM: 497 90% Confidence Interval Upper Limit: 591 Lower Limit: 422
90% Confidence Interval Upper Limit: 1821 Lower Limit: 1032 Maintain Corrective Maintenance — (Forced Shutdown	MTBCM: 497 90% Confidence Interval Upper Limit: 591 Lower Limit: 422
MTBCM _f :	MTBCM: 497 90% Confidence Interval Upper Limit: 591 Lower Limit: 422 ability Indices Corrective Maintenance — (All Events)
MTBCM _f :	MTBCM: 497 90% Confidence Interval Upper Limit: 591 Lower Limit: 422 mability Indices Corrective Maintenance — (All Events) MTTRcm: 6.2
MTBCM _f :	MTBCM: 497 90% Confidence Interval Upper Limit: 591 Lower Limit: 422 sability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2 MCMM _{cm} : 4.0
MTBCM _f :	MTBCM:
### MTBCMf:	MTBCM: 497 90% Confidence Interval Upper Limit: 591 Lower Limit: 422 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2 MCMM _{cm} : 4.0 Max. Observed MH: 72 MCMM _{cm} : 9.3
MTBCM _f :	MTBCM:
## MTBCMf:	MTBCM: 497 90% Confidence Interval Upper Limit: 591 Lower Limit: 422 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 6.2 MCMM _{cm} : 4.0 Max. Observed MH: 72 MCMM _{cm} : 9.3

Noun Name: Puri									
General Description:	Purifier,	CTFGL	FØ	250 GI	PH	x LØ	2250		
CID/APL Number(s):		**	0.00	Federal S	tock l	Number	2H4	330-899	5-0462
Equipment Identificatio	n Code:		1F30						
Technical Manual:	0345-046-	7000				0.00			
Manufacturer:5437	O Pennsal	t Chemi	cals	Corp.	, Eq	uipme	nt Di	vision	and the ball of the
			Basic	Data					
Ship Population: SSBN	598, 599	, 600,	601,	*(1)Equi	p. Po	pulation	/Ship: _	l ea/SS	BBN: SSN
Equip. Population in Da					•		-		
Utilization Factors:									
Total Equip. Operating									
Total Number of: Fa	ilures (CM _f):_	5		Corrective	Mair	tenance	Events	(CM):	8
Total CM _f Repair Man-	lours:	8		Total CM	Repa	ir Man-I	lours: _		12
Maintenance Factors: _		0.67							
(Forced Shutdown	Corrective Ma	intenance)		y Indices Mean Tim	e Bet	ween Co	orrective	Maintena	ince
MTBCM _f :68 90% Confidence Ir	Corrective Ma	intenance)		Mean Tim	Confi	43 idence I	nterval		ance mayor
(Forced Shutdown MTBCM _f : <u>68</u> 90% Confidence Ir Upper Limit:	Corrective Ma	intenance)		Mean Tim	Confi Uppe	43 idence II r Limit:	nterval 86	Maintens	oemeë) - gallet lyd - galle
(Forced Shutdown MTBCM _f : 68 90% Confidence Ir Upper Limit: Lower Limit:	corrective Management	intenance)	tainab	Mean Tim MTBCM: 90%	Confi Uppe Lowe	43 idence In r Limit: r Limit:	1terval 86 24	mati (Q.)	100000 (W. 100000) 12 MBR
(Forced Shutdown MTBCM _f :	corrective Management 175 33 — (Forced Shu	intenance)	tainab	Mean Tim MTBCM: 90%	Confi Uppe Lowe	43 idence In r Limit: r Limit:	1terval 86 24	mati (Q.)	100000 (W. 100000) 12 MBR
(Forced Shutdown MTBCM _f :	corrective Management 175 33 — (Forced Shu	intenance)	tainab	Mean Tim MTBCM: 90% ility Indice Corrective	Confi Uppe Lowe	43 idence In Limit: or Limit:	86 24 - (All	mati (Q.)	100000 (W. 100000) 12 MBR
(Forced Shutdown MTBCM _f :	corrective Management 175 33 — (Forced Shu	intenance)	tainab	Mean Tim MTBCM: 90% ility Indice Corrective	Confi Uppe Lowe	43 idence In Limit: r Limit:	- (All	mati (Q.)	100000 (W. 100000) 12 MBR
(Forced Shutdown MTBCM _f :	Corrective Management of the M	intenance)	tainab	Mean Tim MTBCM: 90% ility Indice Corrective MTTR _{cm} MCMM _{cm}	Confi Uppe Lowe	43 idence In Limit: r Limit:	- (All	Events)	100000 (W. 100000) 12 MBR
(Forced Shutdown MTBCM _f :	Corrective Management of the M	intenance)	tainab	Mean Tim MTBCM: 90% ility Indice Corrective MTTR _{cm} MCMM _{cm}	Confi Uppe Lowers Main	43 idence In Limit: r Limit:	- (All	Events)	100000 (W. 100000) 12.0000
(Forced Shutdown MTBCM _f :	Corrective Management of the M	intenance)	tainab	Mean Tim MTBCM: 90% ility Indice Corrective MTTR _{cm} MCMM _{cm} Max. MCMM _{cm}	Confi Uppe Lowers Main	43 idence In Limit: r Limit:	- (All	Events)	100000 (W. 100000) 12.0000
(Forced Shutdown MTBCM _f :	Corrective Management 175	intenance) Maint	tainab	Mean Tim MTBCM: 90% ility Indice Corrective MTTR _{cm} MCMM _{cm} Max. MCMM _{cm} Varia	Confi Uppe Lowe s Main	43 idence In Limit: ir Limit: itenance 1.0 1.0 irved Mi	- (All	Events)	100000 (W. 100000) 12.0000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Corrective Management 175 33 — (Forced Shu	Maint	tainab	Mean Tim MTBCM: 90% ility Indice Corrective MTTR _{cm} MCMM _{cm} Max. MCMM _{cm} Varia	Confi Uppe Lowers Main Obse	dence In Limit: ter Limit: tenance 1.0 1.0 erved Mi	- (All	Events)	A STATE OF THE STA

General Description: Purifier, Company of the Purifier, Company of the Purifier of the Purifie	I P (TI) PV)	250 GPH x LØ 225GPH
	II GE IP	Federal Stock Number: 2H4330-895-0462
A T T A T T	ZU14	
echnical Manual: 0345-046-70		<u>'</u>
	Chemicals	corp., Equipment Division
Manufacturer: 54370 Pennsalt	OHOMICOIL	ooip., iquipment bivibien
	Basic	: Data
thip Population: DEG 4, 5; SSBN	598, 599*	*(1) Equip. Population/Ship: 1 ea/DEG; **(2)
equip. Population in Data Base:	42	Data Assessment Period: 7/1/67 - 6/30/69
Jtilization Factors: DE/S: A=0.50,		C=0.05: SSBN/SSN/S:A=0.40,B=0.40,C=0
Total Equip. Operating Time (hours): _		
Total Number of: Failures (CM _f):	94	Corrective Maintenance Events (CM): _320
Total CM _f Repair Man-Hours:	368	Total CM Repair Man-Hours: 1298
Maintenance Factors:		.67
90% Confidence Interval Upper Limit: 2528		90% Confidence Interval Upper Limit: 683
Lower Limit: 1782		Lower Limit: 566
	Maintainab	pility Indices
Corrective Maintenance — (Forced Shutd	own	Corrective Maintenance — (All Events)
Failure Events Only)		Cornection Maladamana ~ (Remail Supplication
MTTR _f : 2.6		MTTR _{cm} : 2.7
ICMM. 20		MCMM _{cm} : 1.8
MCMM _f :		Max. Observed MH: 114
Max. Observed MH:19		MCD404 . 4.1
Max. Observed MH: 19 MCMM _f : 3.9		MCMM _{em} : 4.1
Max. Observed MH:19		Wariance: 4.1
Max. Observed MH:19 MCMM _f :3.9 Variance:18 Indicated Distribution(s): Exponential		MCMM _{cm} : 4.1 Variance: 77 Normal Log Normal X 628, 629, 630, 631, 632, 633, 634,

Equipment Identification

Purifier, Lube Oil, Sharples

Noun Name: _

	FGL FØ 250 GPH x LØ 225 GPH
CID/APL Number(s): 760010087	Federal Stock Number: None *(1)
	ZU14
Technical Manual:345-0493	CHARLES AND CONTRACT SERVE
Manufacturer: 54370 Pennsalt C	hemicals Corp., Equipment Division
	Basic Data
Ship Population: DLG 29, 30, 31,	33 Equip. Population/Ship: 2 ea/DLG
Equip. Population in Data Base:	
Utilization Factors: S: A=0.50, B=0	
Total Equip. Operating Time (hours):3	5786
Total Number of: Failures (CM _f):	20 Corrective Maintenance Events (CM): 53
Total CM _f Repair Man-Hours:	43 Total CM Repair Man-Hours: 870
Maintenance Factors:	. (-
Mean Time Between Failure	Reliability Indices Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Mainter	nance)
MTBCM _f : 1789	MTBCM: 675
90% Confidence Interval	90% Confidence Interval
Upper Limit: 2700	Upper Limit: 860
Lower Limit: 1231	Lower Limit:537
	Maintainability Indices
Attentonance — (All Events)	Correction Maintensione - 18 orasi sicoblasm Correction
Corrective Maintenance — (Forced Shutdov	vn Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f : 14.8	MTTR _{cm} :10.9
MCMM ₆ :13.1	MCMM _{cm} : 9.5
Max. Observed MH: 126	Max. Observed MH: 126
MCMM _f : 22.2	MCMM _{cm} : 16.4
Variance: 842	Variance: 555
Indicated Distribution(s): Exponential	Normal Log Normal X
*REMARKS: *(1) ID-LØ-14VN	2P;

Noun Name: Purifier, Lube Oil, Sha	arples
General Description: Purifier, CTFGL F	
CID/APL Number(s): 760010088	Federal Stock Number: None*(1)
Equipment Identification Code:	14
Technical Manual: 345-0496	
Manufacturer: 54370 Pennsalt Chemical	ls Corp., Equipment Division
Ship Population: SSBN 640, 642, 643, 644	Equip. Population/Ship: 2 ea/SSBN
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.40, B=0.40, C=	
Total Equip. Operating Time (hours): 44113	
Total Number of: Failures (CM _f): 23	_ Corrective Maintenance Events (CM):61
Total CM _f Repair Man-Hours: 125	
Maintenance Factors: 0.67	
90% Confidence Interval Upper Limit: 2806 Lower Limit: 1354	90% Confidence Interval Upper Limit: 905 Lower Limit: 584
	. 10110 7070
Maintair	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 3.6	MTTR _{cm} : 2.9
MCMM _f : 4.5	MCMM _{cm} : 2.5
Max. Observed MH:16	Max. Observed MH: 23
MCMM _f :5.4 Variance:18.6	MCMM _{cm} : 4,4 Variance: 22
Indicated Distribution(s): Exponential	Normal Log Normal _X
*REMARKS: *(1) ID-IØ 14VN2P-SN	-4

General Description: Purifier, CTFGL FØ GPH x LØ 225GPH	Noun Name: Purifier, Fuel Oil,	Delaval
Ship Population: ATF 162, 163		
Equipment Identification Code: 1F28 Technical Manual: 345-0081 and 345-0277 Manufacturer: 71871 DeLaval Seperator Co. Basic Data Ship Population: ATF 162, 163		
Technical Manual: 345-0081 and 345-0277 Manufacturer: 71871 DeLaval Seperator Co. Basic Data		1F28
Basic Data Ship Population: A'TF 162, 163 Equip. Population/Ship: 1 ea/ATF		-0277
Ship Population: ATF 162, 163 Equip. Population in Data Base: 2 Data Assessment Period: 7/1/67 - 6/30/ Utilization Factors: S: A= 0.60, B= 0.15, C= 0.0 Total Equip. Operating Time (hours): 7650 Total Number of: Failures (CM _f): 4 Corrective Maintenance Events (CM): 9 Total CM _f Repair Man-Hours: 9.7 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1912 90% Confidence Interval Upper Limit: 5599 Lower Limit: 5599 Lower Limit: 536 Maintainability Indices Maintainability Indices Maintainability Indices Corrective Maintenance - (Forced Shutdown Failure Events Only) MTTR _f : 1.6 MCMM _f : 2.3 Max. Observed MH: 5.0 MCMM _f : 2.4 Variance: 5.9 MCMM _{cm} : 5.2 Variance: 41.2	Manufacturer: 71871 DeLaval Sepera	tor Co.
Ship Population: ATF 162, 163 Equip. Population in Data Base: 2 Data Assessment Period: 7/1/67 - 6/30/ Utilization Factors: S: A= 0.60, B= 0.15, C= 0.0 Total Equip. Operating Time (hours): 7650 Total Number of: Failures (CM _f): 4 Corrective Maintenance Events (CM): 9 Total CM _f Repair Man-Hours: 9.7 Maintenance Factors: 0.67 Reliability Indices Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1912 90% Confidence Interval Upper Limit: 5599 Lower Limit: 5599 Lower Limit: 536 Maintainability Indices Maintainability Indices Maintainability Indices Corrective Maintenance - (Forced Shutdown Failure Events Only) MTTR _f : 1.6 MCMM _f : 2.3 Max. Observed MH: 5.0 MCMM _f : 2.4 Variance: 5.9 MCMM _{cm} : 5.2 Variance: 41.2		
Equip. Population in Data Base: 2		Basic Data
Equip. Population in Data Base: 2 Data Assessment Period: 7/1/67 - 6/30/ Utilization Factors: S: A = 0.60, B = 0.15, C = 0.0 Total Equip. Operating Time (hours): 7650 Total Number of: Failures (CMf): 4 Corrective Maintenance Events (CM): 9 Total CMf Repair Man-Hours: 9.7	Ship Population: AUT 162 163	Fauin Population/Skip. 1 ea/ATE
Utilization Factors: S: A = 0.60, B = 0.15, C = 0.0 Total Equip. Operating Time (hours): 7650 Total Number of: Failures (CMf): 4 Corrective Maintenance Events (CM): 9 Total CMf Repair Man-Hours: 9.7 Total CM Repair Man-Hours: 47 Maintenance Factors: 0.67		
Total Equip. Operating Time (hours): 7650 Total Number of: Failures (CMf): 4 Corrective Maintenance Events (CM): 9		
Total Number of: Failures (CM _f): 4 Corrective Maintenance Events (CM): 9		Line timed and whites O must lete!
Total CM _f Repair Man-Hours: 9.7		Corrective Maintenance Events (CM):
Maintenance Factors: 0.67		
Mean Time Between Failure	Total CM _f Repair Man-Hours: 9.7	Total CM Repair Man-Hours:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1912	Maintenance Factors:	
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	90% Confidence Interval Upper Limit: 5599	90% Confidence Interval Upper Limit: 1629
Failure Events Only) MTTR _f : 1.6	Main	tainability Indices
MTTR _f : 1.6 MCMM _f : 2.3 Max. Observed MH: 5.0 Max. Observed MH: 21.0 MCMM _f : 2.4 Variance: 5.9 Variance: 41.2	Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
MCMM _f : 2.3 MCMM _{cm} : 4.0 Max. Observed MH: 5.0 Max. Observed MH: 21.0 MCMM _f : 5.2 Variance: 5.9 Variance: 41.2	Failure Events Only)	
Max. Observed MH:	MTTR _f :1.6	MTTR _{cm} : 3.5
MCMM _f : 2.4 MCMM _{cm} : 5.2 Variance: 41.2		
Variance: Variance:		
		MCMM _{cm} : 5.2
	Variance:	variance:
Indicated Distribution (s): Exponential Normal Log Normal	Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID-LØ; Dwg. A-1345; **Same CID as L.O. Purifier, bu	*REMARKS: *(1) ID-LØ; Dwg. A-	1345; **Same CID as L.O. Purifier, but
analyzed separately for F.O.		

General Description: Purifier, CTFGI CID/APL Number(s): 760200001	Feder	al Stock Nu	mber: None	*(1)
Equipment Identification Code:	1G43			
Technical Manual: 345-0081				
Manufacturer: 71871 DeLaval Seper	rator Co.			
	Basic Data			
ATT 150 161 160	160			/A IDID
Ship Population: ATF 159, 161, 162,	103	Equip. Popu	lation/Ship:	ea/ATF
Equip. Population in Data Base:		Data Assessi	ment Period: 7/	1/67 - 6/
Utilization Factors: S: A=0.85, B=0.20				0.082 1935
Total Equip. Operating Time (hours): 2075	_		THE POSTS HE HAVE	कुछ स्राधान ह
Total Number of: Failures (CM _f):	5 Corre	ctive Mainte	enance Events (C	M):12
Total CM Repair Man-Hours: 20.	2 Total	CM Repair	Man-Hours:	38
Maintenance Factors: 0.67				
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150	œ) MTB(Time Between 1729		aintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533	Mean De)	Time Between 1729 90% Confidence Upper	ence Interval Limit: 2997	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval	Mean De)	Time Between 1729 90% Confidence Upper	ence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533 Lower Limit: 1974	Mean De)	Time Between 1729 90% Confide Upper Lower	ence Interval Limit: 2997	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533 Lower Limit: 1974 Ma	Mean MTB(Time Between 1729 90% Confidence Upper Lower	ence Interval Limit: 2997	50 (6790 52 (6790 167902-800 5990-7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533 Lower Limit: 1974	Mean MTB(Time Between 1729 90% Confidence Upper Lower	ence Interval Limit: 2997 Limit: 1967	50 (6790 52 (6790 167902-800 5990-7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533 Lower Limit: 1974 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.7	Mean MTB(Time Between 1729 90% Confide Upper Lower Lower Mainte	ence Interval Limit: 2997 Limit: 1067 enance — (All Ew	50 (6790 52 (6790 167902-800 5990-7
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval	Mean MTB(MTB(Time Between 1729 90% Confide Upper Lower Lower Maintee Maintee Mcm:	ence Interval Limit: 2997 Limit: 1067 enance — (All Ew	ents)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533 Lower Limit: 1974 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.7 MCMM _f : 4.0 Max. Observed MH: 10	Mean MTB(MTB(Time Between 1729 90% Confide Upper Lower Indices ective Mainte	ence Interval Limit: 2997 Limit: 1067 enance — (All Ew	ents)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533 Lower Limit: 1974 Max. Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.7 MCMM _f : 4.0 Max. Observed MH: 10	Mean MTB(MTB(Mintainability In Correct MTT MCM	Time Between 1729 90% Confide Upper Lower Lower Mainten Rem:	ence Interval Limit: 2997 Limit: 1067 enance — (All Ew	ents)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533 Lower Limit: 1974 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.7 MCMM _f : 4.0 Max. Observed MH: 10	Mean MTB(MTB(Mintainability In Correct MTT MCM	Time Between 1729 90% Confide Upper Lower Lower Mainten Rem:	ence Interval Limit: 2997 Limit: 1067 enance — (All Ew	ents)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 4150 90% Confidence Interval Upper Limit: 10533 Lower Limit: 1974 Max. Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 2.7 MCMM _f : 4.0 Max. Observed MH: 10	Mean MTB(MTB(Time Between 1729 90% Confide Upper Lower Lower Mainten Rem:	ence Interval Limit: 2997 Limit: 1067 enance — (All Ew	ents)

Noun Name: Purifier, L.O. Delaval	Note that the second of the se
General Description: Purifier, CTFGL	LØ 2 25 GPH
CID/APL Number(s): 760200003	Federal Stock Number: None *(1)
	U16
Technical Manual: 345-0248	MICAL STOLVE Ligning to Assistance 40
Manufacturer: 71871 DeLaval Seperato	or Co.
Manufacturer:	
all a	sasic Data
Ship Population: DD 875, 876, 877, 880	$\frac{1}{2}$ Equip. Population/Ship: $\frac{2 \text{ ea/DD}}{2}$
Equip. Population in Data Base:26	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.50. B=0.10.	
Total Equip. Operating Time (hours): $\frac{106376}{56}$	2 PROPERTY (Remoth and Continued college and a
Total Number of: Failures (CM _f): 56	Corrective Maintenance Events (CM):
	Total CM Repair Man-Hours: 1852
Total CM _f Repair Man-Hours: 659 Maintenance Factors: 0.67	and the second s
Manivendree Pactors	
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
	MTRCM: 511
MTBCM _f : 1899	MI DOM:
90% Confidence Interval 2402	90% Confidence Interval Upper Limit:575
Upper Limit:	Lower Limit: 456
Lower Limit: 1520	Lower Limit:
Mainta	inability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Color Science Colors
	MTTR _{cm} :6.0
Failure Events Only) MTTR _f : 8.0	MTTR _{cm} : 6.0 MCMM _{cm} : 2.8
Failure Events Only)	MTTR _{cm} :6.0 MCMM _{cm} :2.8 Max. Observed MH:106
Failure Events Only) MTTR _f : 8.0 MCMM _f : 4.0 Max. Observed MH: 106	MTTR _{cm} : 6.0 MCMM _{cm} : 2.8
Failure Events Only) MTTR _f : 8.0 MCMM _f : 4.0	MTTR _{cm} :6.0 MCMM _{cm} :2.8 Max. Observed MH:106
Failure Events Only) MTTR _f : 8.0 MCMM _f : 4.0 Max. Observed MH: 106 MCMM _f : 12.0	MTTR _{cm} :6.0 MCMM _{cm} :2.8 Max. Observed MH:106 MCMM _{cm} :9.0
Failure Events Only) MTTR _f : 8.0 MCMM _f : 4.0 Max. Observed MH: 106 MCMM _f : 12.0 Variance: 451 Indicated Distribution(s): Exponential	MTTR _{cm} :

Noun Name: Purifier, Fuel Oil, Dela	aval
General Description: Purifier, CTFGL FØ	152GPH
CID/APL Number(s): 760200004	Federal Stock Number: None *(1)
Equipment Identification Code: AJG	3
Technical Manual: 345-0248	
Manufacturer: 71871 DeLaval Seperator	Co.
Basic	c Data
Ship Population: DD 875, 876, 877, 878,	*(2) Equip. Population/Ship: $\frac{1 \text{ ea/DD}}{}$
Equip. Population in Data Base:13	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A= 0.01, B= 0.01	
Total Equip. Operating Time (hours):1446	
Total Number of: Failures (CM _f): 8	Corrective Maintenance Events (CM): 32
	Total CM Repair Man-Hours: 241
Maintenance Factors:0.67	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval	MTBCM: 45 90% Confidence Interval Upper Limit: 62 Lower Limit: 34
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :6.7	Corrective Maintenance — (All Events) MTTR _{cm} : 5.0
MCMM _f :3.0	MCMM _{cm} : 2.8
Max. Observed MH:51	Max. Observed MH:51
MCMM _f :10.0	MCMM _{cm} : 7.5
Variance: 294	Variance: 123
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID-LØ Dwg. A993;	*(2) 880, 881, 882, 883, 884, 885,
886, 888, 889	

Noun Name: Purifier, Fuel Oil, D	levele
CID/APL Number(s): 760200060 **	Federal Stock Number: None *(1)
Equipment Identification Code: A Technical Manual: 71871 DeLaval Sep	eretor Co
Manufacturer:	
P P	Basic Data
Ship Population: AØ 148: ATF 85:	Equip. Population/Ship: 1 ea/AØ; ATF;
Equip. Population in Data Base: 2	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AØ/S: A=0.01. B=0.01	., C=0.0; ATF/S: A=0.60, B=0.15, C=0.0
Total Equip. Operating Time (hours): 4065	
	Corrective Maintenance Events (CM):9
	Total CM Repair Man-Hours:43
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2032 90% Confidence Interval Upper Limit: 11439 Lower Limit: 646	Mean Time Between Corrective Maintenance MTBCM: 451 90% Confidence Interval Upper Limit: 866 Lower Limit: 259
Maintai	inability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Const. madel. madel
MTTR _f : 4.7	MTTR _{cm} : 3.2
MCMM _f : 7.1	MCMM _{cm} : 2.0
Max. Observed MH:12	Max. Observed MH:20
MCMM _f : 7.1	MCMM _{cm} : 4.8
Variance: 52	Variance: 45
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID-LØ Model 55N analyzed separately for F.O.	N-23; **Same CID as L.O. Purifier, but

Noun Name: Purifier, Lube Oil, Delaval General Description: Purifier, CTFGL LØ 225GPH CID/APL Number(s): 760200060 Federal Stock Number: None *(1) Equipment Identification Code: ZU16	
CID/APL Number(s): 760200060 Federal Stock Number: None *(1	
	1
Equipment Identification Code: ZU16	
Technical Manual: 345-0278	
Manufacturer: 71871 DeLaval Seperator Co.	
Basic Data	/n Ø
Ship Population: AØ 100, 108, 148 Equip. Population/Ship: 1 ea	
Equip. Population in Data Base: 3 Data Assessment Period: 7/1/6	7 - 6/30/69
Utilization Factors: S: A=0.50, B=0.10, C=0.0	
Total Equip. Operating Time (hours): 12333	16
Total Number of: Failures (CM _f): 9 Corrective Maintenance Events (CM):	
Total CM _f Repair Man-Hours: 183 Total CM Repair Man-Hours:	199
Maintenance Factors:	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1370	Layeren
Maintainability Indices	
Corrective Maintenance — (Forced Shutdown Corrective Maintenance — (All Events)	
Failure Events Only) MTTR _f : 13.6 MTTR _{cm} : 8.3	Memoral and codes Mark
MTTR _f : 13.6 MTTR _{cm} : 8.3 MCMM _f : 3.0	AN extracted to sell country.
MTTR _f : 13.6 MTTR _{cm} : 8.3 MCMM _f : 3.0 Max. Observed MH: 85 Max. Observed MH: 85	All extracted and coulded and coulded and the
MTTR _f : 13.6 MTTR _{cm} : 8.3 MCMM _{cm} : 3.0	AN ENGLISHED TO SERVICE TO SERVIC
MTTR _f : 13.6 MCMM _f : 8.0 Max. Observed MH: 85 MCMM _{cm} : 3.0 Max. Observed MH: 85 MCMM _{cm} : 12.4 Variance: 23	og Normal
MTTR _f :13.6 MCMM _f :8.0 Max. Observed MH:85 MCMM _{cm} :3.0 Max. Observed MH:85 MCMM _{cm} :12.4 Variance:818 Variance:23	SOURCE SECURE

Equipment Identification

Noun Name: Purifier, Fu	el Oil, Delaval
General Description: Purifier	CTFGL FØ 350GPH LØ 350GPH
	84 ** Federal Stock Number: None*(1)
Equipment Identification Code:	AJG3
Technical Manual: 345-0363	
	al Seperator Co.
Shin Population: LSD 32, 33:	Basic Data LST 1159**(2) Equip. Population/Ship: 2 ea/LST; 1 ea/LST
	12 Data Assessment Period: 7/1/67 - 6/30/69
	15,B=0,01,C= 0.0; LST/S: A=0.50,B=0.10,C=0.0
Total Equip. Operating Time (hours	
	21 Corrective Maintenance Events (CM): 49
Maintenance Factors:	187 Total CM Repair Man-Hours: 463
Maintenance Factors:	
(Forced Shutdown Corrective M MTBCM _f : 1460 90% Confidence Interval	MTBCM: 625 90% Confidence Interval
Upper Limit: 2179	Upper Limit: 805
Lower Limit: 1014	Lower Limit: 493
	Maintainability Indices
Corrective Maintenance - (Forced SI	hutdown Corrective Maintenance — (All Events)
Failure Events Only)	62
MTTR _f 5.9 MCMM- 3.0	MTTR _{cm} : 63
he had	MCMM _{cm} :1.0 Max. Observed MH:88
max countred mit.	
Waterwe 150	Variance: 368
	ntial Log Normal
CONTRACT PLAN TO-18	Model 65N-23: **Same CID as L.O. Purifier,
DESCRIPTION OF THE PROPERTY OF	For F. Q.1 *(2) 1161, 1162, 1163, 1170;
· · · · · · · · · · · · · · · · · · ·	

2-875

Noun Name: Purifier, Lube Oil	, Delaval
General Description: Purifier CTFGL	. FØ 350GPH LØ 350GPH
CID/APL Number(s): 760200084	Federal Stock Number: None *(1)
Equipment Identification Code:	ZU16
Technical Manual: 345-0363	
Manufacturer: 71871 DeLaval Sepe	rator Co.
Ship Population, LSD 32, 33; LST 11	Basic Data 59,**(2) Equip. Population/Ship: 2 ea/LSD; LST;
	14 Data Assessment Period: 7/1/67 - 6/30/69
Equip. Population in Data Base:	0.02,C=0.04; LST/S:A=0.50,B=0.10, C=0.05
Total Equip. Operating Time (hours): 422	
Total Number of: Failures (CM _f):	6 Corrective Maintenance Events (CM): 76
	Total CM Repair Man-Hours:1196
Maintenance Factors:	.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenan MTBCM _f : 2641 90% Confidence Interval Upper Limit: 1739 Lower Limit: 4212	Mean Time Between Corrective Maintenance MTBCM:
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 4.2	MTTR _{cm} :10.5
MCMM _f : 2.3	MCMM _{cm} :2.0
Max. Observed MH: 49	Max. Observed MH:306
MCMM _f :6.3	MCMM _{cm} :15.7
Variance: <u>147</u>	Variance: 3484
Indicated Distribution (s): Exponential	Normal Log Normalx
*REMARKS: *(1) ID-LØ- Model 6	55N-23: **(2) 1160, 1162, 1163, 1170

Noun Name: Purifier, Lube Oil, Del	aval
General Description: Purifier, CTFGL FØ	350 GPH x LØ 350GPH
CID/APL Number(s): 760200090 **	Federal Stock Number: None *(1)
	3 Carried and the control of the con
Technical Manual: 345-0370	A CONTRACT CONTRACT CONTRACT
Manufacturer: 71871 DeLaval Seperator	Co.
and the state of t	ic Data
	35 Equip. Population/Ship: 1 ea/LSD
Equip. Population in Data Base:	6 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.15, B= 0.01,	
Total Equip. Operating Time (hours): 5075	
Total Number of: Failures (CM _f): 11	Corrective Maintenance Events (CM):30
Total CM _f Repair Man-Hours: 276	Total CM Repair Man-Hours: 484
Maintenance Factors:0.67	TOTAL STREET, SPECIAL STREET,
(Forced Shutdown Corrective Maintenance) MTBCM _f :461 90% Confidence Interval	MTBCM: 169 90% Confidence Interval Upper Limit: 235 Lower Limit: 125
Maintaina	bility Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :16.7	Corrective Maintenance — (All Events) MTTR _{cm} :
MCMM _f :8.0	MCMM _{cm} : 2.8
Max. Observed MH:150	Max. Observed MH:150
MCMM _f : 25.1 Variance: 1907	MCMM _{cm} : 16.1 Variance: 1158
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID-LØ Model 65N-23; analyzed separately for F.O.	**Same CID as L.O. Purifier, but

General Description: Purifier CTrGL FO	350GPH x LØ 350GPH
	Federal Stock Number: None *(1)
	116
Technical Manual: 345-0370	
Manufacturer: 71871 DeLaval Seperato	or Co.
manufacturer	
	Sasic Data
	asic Data
Ship Population: LSD 28, 29, 30, 31, 34	+, 35 Equip. Population/Ship: 2 ea/LSD
Equip. Population in Data Base:	12 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S:A=0.50, B=0.02, C	=0.04
Total Equip. Operating Time (hours): 35950	
	Corrective Maintenance Events (CM):
Total CM. Renair Man-Hours: 266	Total CM Repair Man-Hours:773
Maintenance Factors: 0.67	
Kelia	bility Indices
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2567	Mean Time Between Corrective Maintenance MTBCM: 513
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2567 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2567 90% Confidence Interval Upper Limit: 4248	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval Upper Limit: 633
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2567 90% Confidence Interval Upper Limit: 4248	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2567 90% Confidence Interval Upper Limit: 4248 Lower Limit: 1643	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval Upper Limit: 633 Lower Limit: 421
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2567 90% Confidence Interval Upper Limit: 4248 Lower Limit: 1643	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval Upper Limit: 633
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2567 90% Confidence Interval Upper Limit: 4248 Lower Limit: 1643 Maintai	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval Upper Limit: 633 Lower Limit: 421
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2567 90% Confidence Interval Upper Limit: 4248 Lower Limit: 1643 Maintai Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval Upper Limit: 633 Lower Limit: 421
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2567 90% Confidence Interval Upper Limit: 4248 Lower Limit: 1643 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval Upper Limit: 633 Lower Limit: 421 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2567 90% Confidence Interval Upper Limit: 4248 1643 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 12.7	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval Upper Limit: 633 Lower Limit: 421 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.4
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2567 90% Confidence Interval Upper Limit: 4248 Lower Limit: 1643 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 513 90% Confidence Interval Upper Limit: 633 Lower Limit: 421 inability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2567 90% Confidence Interval Upper Limit: 4248 1643 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 12.7 MCMMf: 8.3 Max. Observed MH: 77	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2567 90% Confidence Interval Upper Limit: 4248 Lower Limit: 1643 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.7 MCMM _f : 8.3	MTBCM: 513 90% Confidence Interval Upper Limit: 633 Lower Limit: 421 Inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.4 MCMM _{cm} : 1.3
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf: 2567 90% Confidence Interval Upper Limit: 4248 Lower Limit: 1643 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 12.7 MCMMf: 8.3 Max. Observed MH: 77	MTBCM: 513 90% Confidence Interval Upper Limit: 633 Lower Limit: 421 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 7.4 MCMM _{cm} : 1.3 Max. Observed MH: 206 MCMM _{cm} : 11.0

Noun Name: Purifier, Lube Oil, De		
General Description: Purifier, CTFGL F	FØ 225GPH x LØ 225GPH	(American)
CID/APL Number(s): 760200112 **		PEARSON
Equipment Identification Code: A.	JG3	Samuel
	On Charles Incomité :	
Manufacturer: 71871 DeLaval Seperato	or Co.	selvesti.
В	asic Data	
Ship Population: DD 941, 942, DDG-31;	Equip. Population/Ship: 1 ea/DD;	DDG
Equip. Population in Data Base:3		6/30/69
Utilization Factors: DD, DDG/S: A= 0.01.		36.7961
Total Equip. Operating Time (hours):356		
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM):	4
Total CM _f Repair Man-Hours: 22	Total CM Repair Man-Hours:	30
Maintenance Factors: 0.67		agticalis
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance MTRCM: 89	be .
Mean Time Between Failure	Mean Time Between Corrective Maintenance	ee
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 178 90% Confidence Interval Upper Limit: 1002 Lower Limit: 57	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 261	ee
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 178 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 261 Lower Limit: 39 nability Indices Corrective Maintenance — (All Events)	esesse rec
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 178 90% Confidence Interval Upper Limit: 1002 Lower Limit: 57 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR: 7.3	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 261 Lower Limit: 39 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.0	esesse rec
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\mathbf{f}}$: $\frac{178}{90\%}$ Confidence Interval Upper Limit: $\frac{1002}{57}$ Lower Limit: $\frac{57}{57}$ Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\mathbf{f}}$: $\frac{7.3}{11.0}$	Mean Time Between Corrective Maintenance MTBCM:	esesu oc
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 89 90% Confidence Interval Upper Limit: 261 Lower Limit: 39 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.0 MCMM _{cm} : 4.5 Max. Observed MH: 20	esesu oc
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\mathbf{f}}$: $\frac{178}{90\%}$ Confidence Interval Upper Limit: $\frac{1002}{57}$ Lower Limit: $\frac{57}{57}$ Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\mathbf{f}}$: $\frac{7.3}{11.0}$	Mean Time Between Corrective Maintenance MTBCM:	esesu oc
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:	

Noun Name: Purifier, Lube Oil, Del	aval
General Description: Purifier, CTFGL FØ	225GPH x LØ 225GPH
CID/APL Number(s): 760200112	
Equipment Identification Code: ZU16	
Technical Manual: 345-0387	
Manufacturer: 71871 DeLaval Seperator	Co.
Manufacturer:	
Basi	c Data
Ship Population: DDG-31; DD 941, 942, **	(2) Equip. Population/Ship: 2 ea/DD; DDG
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.50, B=0.10, C=0	0.05
Total Equip. Operating Time (hours): 42109	
Total Number of: Failures (CM _f): 15	Corrective Maintenance Events (CM): 44
Total CM _f Repair Man-Hours: 294 Maintenance Factors: 0.67	Total CM Repair Man-Hours: 497
Maintenance Factors:	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2807	MTBCM:
90% Confidence Interval	90% Confidence Interval
Upper Limit: 4554	Upper Limit: 1250
Lower Limit: 1823	Lower Limit: 744
Maintaina	bility Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f :13.0	MTTR _{cm} :
MCMM _f : 4.0	MCMM _{cm} :3.5
Max. Observed MH:72	Max. Observed MH:72
MCMM _f :19.6	MCMM _{cm} : 11.3
Variance: 693	Variance: 310
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID-LØ Model 55N-03	; **(2) 946 , 948 , 951.

	Oil, Delaval
General Description: Purifier,	CTFGL FØ 225GPH x LØ 225GPH
CID/APL Number(s): 760200118	Federal Stock Number: None *(1)
Equipment Identification Code:	
Technical Manual: 345-0383	Technique Shares Commencer
Manufacturer: 71871 DeLaval	Seperator Co.
	Basic Data
Ship Population: CVA 61, 62:	Equip. Population/Ship: _6 ea/CVA
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.50. B	
Total Equip, Operating Time (hours):	
	24 Corrective Maintenance Events (CM): 58
	304 Total CM Repair Man-Hours:631
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Main	000
(Forced Shutdown Corrective Main MTBCM _f : 2387 90% Confidence Interval Upper Limit: 3462	MTBCM: 987 90% Confidence Interval Upper Limit: 1244
(Forced Shutdown Corrective Main MTBCM _f : 2387 90% Confidence Interval Upper Limit: 3462 Lower Limit: 1697 Corrective Maintenance — (Forced Shute Failure Events Only)	MTBCM: 987 90% Confidence Interval Upper Limit: 1244 Lower Limit: 794 Maintainability Indices
(Forced Shutdown Corrective Main MTBCM _f : 2387 90% Confidence Interval Upper Limit: 3462 Lower Limit: 1697 Corrective Maintenance — (Forced Shute Failure Events Only) MTTR _f : 8.4	MTBCM: 987 90% Confidence Interval Upper Limit: 1244 Lower Limit: 794 Maintainability Indices down Corrective Maintenance — (All Events) MTTR _{cm} : 7.3
(Forced Shutdown Corrective Main MTBCM _f : 2387 90% Confidence Interval Upper Limit: 3462 Lower Limit: 1697 Corrective Maintenance — (Forced Shutch Failure Events Only) MTTR _f : 8.4 MCMM _f : 6.8	MTBCM: 987 90% Confidence Interval Upper Limit: 1244 Lower Limit: 794 Maintainability Indices down Corrective Maintenance – (All Events) MTTR _{cm} : 7.3 MCMM _{cm} : 4.3
(Forced Shutdown Corrective Main MTBCM _f : 2387 90% Confidence Interval Upper Limit: 3462 Lower Limit: 1697 Corrective Maintenance — (Forced Shute Failure Events Only) MTTR _f : 8.4 MCMM _f : 6.8 Max. Observed MH: 115	MTBCM: 987 90% Confidence Interval Upper Limit: 1244 Lower Limit: 794 Maintainability Indices down Corrective Maintenance — (All Events) MTTR _{cm} : 7.3 MCMM _{cm} : 4.3 Max. Observed MH: 115
(Forced Shutdown Corrective Main MTBCM _f : 2387 90% Confidence Interval Upper Limit: 3462 Lower Limit: 1697 Corrective Maintenance — (Forced Shutch Failure Events Only) MTTR _f : 8.4 MCMM _f : 6.8	MTBCM: 987 90% Confidence Interval Upper Limit: 1244 Lower Limit: 794 Maintainability Indices down Corrective Maintenance – (All Events) MTTR _{cm} : 7.3 MCMM _{cm} : 4.3
(Forced Shutdown Corrective Main MTBCM _f :	MTBCM: 987 90% Confidence Interval Upper Limit: 1244 Lower Limit: 794 Maintainability Indices down Corrective Maintenance — (All Events) MTTR _{cm} : 7.3 MCMM _{cm} : 4.3 Max. Observed MH: 115 MCMM _{cm} : 10.9 Variance: 342
(Forced Shutdown Corrective Main MTBCM _f : 2387 90% Confidence Interval Upper Limit: 3462 Lower Limit: 1697 Corrective Maintenance — (Forced Shutden Failure Events Only) MTTR _f : 8.4 MCMM _f : 6.8 Max. Observed MH: 115 MCMM _f : 12.7 Variance: 541	MTBCM:

Noun Name: Purifier, Fuel Oil, Sh	
General Description: Purifier, CTFGL F	Ø 250 GPH x LØ 225 GPH
	Federal Stock Number: None *(1)
Equipment Identification Code:	30.
Technical Manual: 345-0386	The state of the s
Manufacturer: 71871 DeLaval Seperato	or Co.
	asic Data
Ship Population: MSC 199, 205, 206, 207	*(2) Equip. Population/Ship: 1 ea/MSC
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.85, B=0.10	, C=0.0
Total Equip. Operating Time (hours): 34041	7/1
	Corrective Maintenance Events (CM):14
Total CM _f Repair Man-Hours: 314	Total CM Repair Man-Hours:409
Maintenance Factors:O	.67
(Forced Shutdown Corrective Maintenance) MTBCM _f : 8510 90% Confidence Interval	MTBCM: 2431 90% Confidence Interval
Upper Limit: 3719 Lower Limit: 24915	Upper Limit: 1555 Lower Limit: 4022
	nability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	
MTTR _f :52.4	MTTR _{cm} :19.5
MCMM _f :	MCMM _{cm} :3.8
Max. Observed MH: 302	Max. Observed MH:302
MCMM _f :78.6	MCMM _{cm} : 29.2
Variance: _22236	Variance: 6304
Indicated Distribution(s): Exponential	Normal Log Normal
Indicated Distribution(s): Exponential *REMARKS: *(1) ID-LØ Model 55N-	

Noun Name: Purifier, Fuel Oil, D	elaval
General Description: Purifier, CTFGL	FØ 150 GPH
CID/APL Number(s): 760200162 *(1)	Federal Stock Number: None; ID-55N-03
	JG3
Technical Manual: 345-0402	4820-84 (spoil (see 1.5)
Manufacturer: 71871 DeLaval Sep	erator Co.
Ship Population: AE 21, 22, 23, 25	Basic Data Equip. Population/Ship: 1 ea/AE
Equip. Population in Data Base: 4	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.01, B=0.01,	C=0.0
Total Equip. Operating Time (hours): 558	Land the state of
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):2
4. [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	Total CM Repair Man-Hours:4
Maintenance Factors:	
MTBCM _f : 805 ** 90% Confidence Interval Upper Limit:	90% Confidence Interval Upper Limit: 1.570
Lower Limit:	Lower Limit:89
Mainta	ainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f :O	MTTR _{cm} : 1.3
MCMM _f :O	MCMM _{cm} :2.0
Max. Observed MH:O	Max. Observed MH:2
MCMM _f :O	MCMM _{cm} : 2.0
Variance: O	Variance:
Indicated Distribution(s): Exponential	Normal Log Normal
	Purifier, but analyzed separately for F.O. ing time for an equipment in this study

Noun Name: Purifier, Lube Oil, De	laval	
General Description: Purifier, CTFGL F	Ø 150 GPH	
CID/APL Number(s): 760200162	Federal Stock Number: None *(1)	102117115
Equipment Identification Code: ZU	16	
Technical Manual: 345-0402		
Manufacturer: 71871 DeLaval Seperato	r Co.	
В	asic Data	
AE 03 00 03 05		. –
Ship Population: AE 21, 22, 23, 25		
Equip. Population in Data Base:		
Utilization Factors: S: A=0.50, B=0.10, 0		
Total Equip. Operating Time (hours): 159		
Total Number of: Failures (CM _f):	Corrective Maintenance Events (CM):	5
Total CM _f Repair Man-Hours: 2 Maintenance Factors: 0.67	Total CM Repair Man-Hours:	18
Maintenance Factors:0.67		
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	bility Indices Mean Time Between Corrective Maintena	
Mean Time Between Failure	bility Indices	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval	Mean Time Between Corrective Maintenan MTBCM: 3185 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468	Mean Time Between Corrective Maintenant MTBCM: 3185 90% Confidence Interval Upper Limit: 8084	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval	Mean Time Between Corrective Maintenan MTBCM: 3185 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468 Lower Limit: 3357	Mean Time Between Corrective Maintenant MTBCM: 3185 90% Confidence Interval Upper Limit: 8084	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468 Lower Limit: 3357 Maintai	Mean Time Between Corrective Maintenance MTBCM: 3185 90% Confidence Interval Upper Limit: 8084 Lower Limit: 1515 nability Indices	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468 Lower Limit: 3357 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenant MTBCM: 3185 90% Confidence Interval Upper Limit: 8084 Lower Limit: 1515 nability Indices Corrective Maintenance — (All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468 Lower Limit: 3357 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3	Mean Time Between Corrective Maintenant MTBCM: 3185 90% Confidence Interval Upper Limit: 8084 Lower Limit: 1515 nability Indices Corrective Maintenance — (All Events)	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468 Lower Limit: 3357 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenant MTBCM: 3185 90% Confidence Interval Upper Limit: 8084 Lower Limit: 1515 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.4 MCMM _{cm} : 2.0 Max. Observed MH: 10	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468 Lower Limit: 3357 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3 MCMM _f : 0 Max. Observed MH: 0 MCMM _f : 2.0	Mean Time Between Corrective Maintenant MTBCM: 3185 90% Confidence Interval Upper Limit: 8084 Lower Limit: 1515 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.4 MCMM _{cm} : 2.0 Max. Observed MH: 10 MCMM _{cm} : 3.6	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468 Lower Limit: 3357 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3 MCMM _f : 0 Max. Observed MH: 0	Mean Time Between Corrective Maintenant MTBCM: 3185 90% Confidence Interval Upper Limit: 8084 Lower Limit: 1515 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.4 MCMM _{cm} : 2.0	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 15927 90% Confidence Interval Upper Limit: 310468 Lower Limit: 3357 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.3 MCMM _f : 0 Max. Observed MH: 0 MCMM _f : 2.0	Mean Time Between Corrective Maintenant MTBCM: 3185 90% Confidence Interval Upper Limit: 8084 Lower Limit: 1515 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.4 MCMM _{cm} : 2.0 Max. Observed MH: 10 MCMM _{cm} : 3.6 Variance: 13	

Noun Name: Purilier, Fuel Oil,	
General Description: Purifier, CTFGL	
CID/APL Number(s): 760200164 **	
	1F28
Technical Manual: 345-0388 and 345	<u>-0401</u>
Manufacturer: 71871 DeLaval Sepera	tor Co.
	Basic Data
Ship Population: DE 1033, 1034; LST 1	173; Equip. Population/Ship: 2 ea/DE; IST
Equip. Population in Data Base:	6 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors DE/S: A=0.50, B=0.10,	,C=0.0; LST/S: A=0.50,B=0.10,C=0.0
Total Equip. Operating Time (hours):160	099
Total Number of: Failures (CM _f): 6	Corrective Maintenance Events (CM):17
Total CM. Panair Man House. 62	Total CM Repair Man-Hours:136
Maintenance Factors: 0.67	Total CW Repair Wall-Hours
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2683	MTBCM: 947
90% Confidence Interval	90% Confidence Interval
Upper Limit: 6161	Upper Limit: 1486
Lower Limit: 1359	Lower Limit: 631
Maint	ainability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 6.8	MTTR _{cm} :5_3
MCMM _f :5.5	MCMM _{cm} :6.0
Max. Observed MH:39	Max. Observed MH:39
MCMM _f :10.3	MCMM _{cm} : 8.0
Variance:217	Variance: 90
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) ID-IØ Model 65N	N-03: **Same CID as L.O. Purifier, but
analyzed separately for F.O.	

Consul Description Dunifica Con	FGL FØ 425GPH x LØ 375GPH
CID/APL Number(s): 100200104	Federal Stock Number: None *(1)
Equipment Identification Code:	345-0401
	perator Co.
Manufacturer: 12012 Dellaval Dep	5614.001 00:
	Basic Data
	ST 1173 Equip. Population/Ship: 2 ea/DE; LST;
	6 Data Assessment Period: 7/1/67 - 6/30/
	10. C=0.05
Total Equip. Operating Time (hours): 19	
Total Number of: Failures (CM _f):1	.1 Corrective Maintenance Events (CM):32
	5 Total CM Repair Man-Hours: 125
Maintenance Factors:	0.67
	Reliability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure	
(Forced Shutdown Corrective Maintens	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintens	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval Upper Limit: 3118	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval Upper Limit: 826
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval Upper Limit: 3118 Lower Limit: 1056	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval Upper Limit: 826
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval Upper Limit: 3118 Lower Limit: 1056	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval Upper Limit: 3118 Lower Limit: 1056	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval Upper Limit: 826 Lower Limit: 447
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval Upper Limit: 826 Lower Limit: 447 Maintainability Indices m Corrective Maintenance — (All Events) MTTR _{cm} : 2.6
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval Upper Limit: 3118 Lower Limit: 1056 Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval Upper Limit: 826 Lower Limit: 447 Maintainability Indices m Corrective Maintenance — (All Events) MTTR _{cm} : 2.6
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval Upper Limit: 826 Lower Limit: 447 Maintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM:
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM: 601 90% Confidence Interval Upper Limit: 826 Lower Limit: 447 Maintainability Indices m Corrective Maintenance — (All Events) MTTR _{cm} : 2.6 MCMM _{cm} : 2.5 Max. Observed MH: 29
(Forced Shutdown Corrective Maintens MTBCM _f : 1748 90% Confidence Interval	Mean Time Between Corrective Maintenance ance) MTBCM:

Noun Name: Purifier, Lube Oil, Del	aval
General Description: Purifier, CTFGL FØ	
CID/APL Number(s): 760200172	
Equipment Identification Code: ZU1	
Technical Manual: 345-0383	Constitution of the second investors
Manufacturer: 71871 DeLaval Seperator	Co.
Basi	e Data
ONA GILLIDO I O 2 E	6
Ship Population: CVA 64; LPD 1, 2, 3, 5,	6 Equip. Population/Ship: 4 ea/CVA 2 ea/LP
Equip. Population in Data Base:	14 Data Assessment Period: 7/1/67 - 6/30/69
	=0.05; LPD/S:A=0.85, B=0.40, C=0.03
Total Equip. Operating Time (hours): 93810	27/394 (senses) staff supress) of utilities
Total Number of: Failures (CM _f): 14	Corrective Maintenance Events (CM): 65
Total CMc Repair Man-Hours:57	Total CM Repair Man-Hours:322
Maintenance Factors:0.67	O september and a september an
Reliabil	ity Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 6700	MTBCM:1443
90% Confidence Interval	90% Confidence Interval
Upper Limit: 11084	Upper Limit: <u>1793</u>
Lower Limit: 4286	Lower Limit: 1174
Lower Littlit.	20,000
Mainteine	hilitar Indiana
Maincaina	bility Indices
Corrective Maintenance - (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
$MTTR_{f}$: 2.7	MTTR _{cm} :3-3
MCMM _f : 2.3	MCMM _{cm} :3.0
Max. Observed MH: 20	Max. Observed MH:30
MCMM _f : 4.0	MCMM _{cm} :5.0
Variance: 30	Variance: 33
variance.	
Indicated Distribution(s): Exponential	Normal Log Normalx
*REMARKS: *(1) ID-LØ Model 55N-	03:
REWARD.	

General Description:	Purifier, CT	Trul ry	250 GPH X LW 225G	211
			Federal Stock Number: None	
	Control of the Contro	TOTAL STREET,	-3	
Technical Manual:				
			Co.	
		Basi	ic Data	
	a lie			40.00
			Equip. Population/Ship: 1	
			Data Assessment Period: 7/	
			01, C= 0.0	
Total Equip. Operating				
Total Number of: F	'ailures (CM _f):	0	Corrective Maintenance Events (CM):5
Total CM _f Repair Man-	-Hours:	0	Total CM Repair Man-Hours:	47
Maintenance Factors: _	0 67			
Mean Time Between Forced Shutdown MTBCMf: 190 *	n Corrective Mainte		Mean Time Between Corrective M MTBCM: 26	faintenance
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit:	n Corrective Mainte	enance)	Mean Time Between Corrective M	httadik (remicili) Siling yakiyaki Siling ikiya
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit:	n Corrective Mainte	enance)	Mean Time Between Corrective M MTBCM: 26 90% Confidence Interval Upper Limit: 67	billed is from (1) Significant (1) Sig
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit:	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM: 26 90% Confidence Interval Upper Limit: 67 Lower Limit: 13	2 (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
(Forced Shutdown MTBCM _f : 190 * 90% Confidence I Upper Limit: Lower Limit	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM: 26 90% Confidence Interval Upper Limit: 67 Lower Limit: 13 bility Indices Corrective Maintenance — (All Ex	2 (A)
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit: Lower Limit Corrective Maintenance Failure Events Only MTTRf: 0	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM: 26 90% Confidence Interval Upper Limit: 67 Lower Limit: 13 bility Indices Corrective Maintenance — (All Ed. MTTRcm: 6.2	2 (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit: Lower Limit Corrective Maintenance Failure Events Only MTTRf: 0 MCMMf: 0	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM:6 90% Confidence Interval	vents)
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit: Lower Limit Corrective Maintenance Failure Events Only MTTRf: 0 MCMMf: 0 Max. Observed Mi	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM: 26 90% Confidence Interval Upper Limit: 67 Lower Limit: 13 bility Indices Corrective Maintenance — (All Education of the confidence	vents)
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit: Lower Limit Corrective Maintenance Failure Events Only MTTRf: 0 MCMMf: 0 Max. Observed Mi MCMMf: 0	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM:	vents)
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit: Lower Limit Corrective Maintenance Failure Events Only MTTRf: 0 MCMMf: 0 Max. Observed Mi	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM: 26 90% Confidence Interval Upper Limit: 67 Lower Limit: 13 bility Indices Corrective Maintenance — (All Education of the confidence	vents)
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit: Lower Limit Corrective Maintenance Failure Events Only MTTRf: 0 MCMMf: 0 Max. Observed Mi MCMMf: 0	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM:	7 3 vents)
(Forced Shutdown MTBCMf: 190 * 90% Confidence I Upper Limit: Lower Limit Corrective Maintenance Failure Events Only MTTRf: 0 MCMMf: 0 Wax. Observed Mi MCMMf: 0 Variance: 0 Indicated Distribution	n Corrective Mainte	enance) Maintaina	Mean Time Between Corrective M MTBCM:	vents) 26 Log Normal _

ARINC RESEARCH CORP ANNAPOLIS MD
ESTABLISHMENT OF RELIABILITY AND MAINTAINABILITY DATA BANK FOR --ETC(U)
MAR 73 E J LUTZ, D J HOFFMAN
OE13-01-1-1224-VOL-2 AD-A054 500 UNCLASSIFIED 6 of **8**AD
A054500

Noun Name: Purifier, Lube Oil, I	Delaval
General Description: Purifier, CTFG1	
CID/APL Number(s): 760200183	Federal Stock Number: None *(1)
Equipment Identification Code:	ZU16 except ATF: IG43
Technical Manual: 345-0462	Sill profit thank treates?
Manufacturer: 71871 DeLaval Seperat	tor Co.
	Basic Data
Ship Population: AØ 147; ATF 91; ATF	156**(2) Equip. Population/Ship: 1 ea/AØ; ATF; ***(
Equip. Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: AØ, CVA, DDG, DLG:S:	A=0.50,B=0.10,C=0.50;ATF/S:A=0.01,B=0.01,C=
Total Equip. Operating Time (hours): 81	1171 (117) europh and asteroch chip/less/
Total Number of: Failures (CM _f): 19	Corrective Maintenance Events (CM): 87
Total CM _f Repair Man-Hours: 239	9 Total CM Repair Man-Hours: 650
Maintenance Factors:	0.67
90% Confidence Interval Upper Limit: 6524 Lower Limit: 2911	MTBCM: 933 90% Confidence Interval Upper Limit: 1124 Lower Limit: 781
	ntainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 8.4	MTTR _{cm} :
MCMM _f : 2.1	MCMM _{cm} : 2.0
Max. Observed MH:101	Max. Observed MH:108
MCMM _f : 12.6	MCMM _{cm} : 7.5
Variance: 546	Variance: 284
Indicated Distribution(s): Exponential	Normal Log Normal _X
*REMARKS: *(1) ID-LØ Model 55N-	03; **(2) CVA66; DDG-18, 19; DLG-18.
	ea/DDG; DLG; LPD; (4) LPD/S: A=0.85
B=0.40, C=0.03;	interest that the set of complete the set of the

	CIAVAI
General Description: Purifier, CTFGL	elaval FØ 220GPM
	Federal Stock Number: None *(1)
Equipment Identification Code: A	JG3
Technical Manual: 71871 DeLaval Sep	erator Co.
Manufacturer:	
	8, 2
•	Basic Data
Ship Population: CVA 61, 62, 63; LPH 3	2, 7 Equip. Population/Ship: 4 ea/CVA 2 ea/LI
Equip. Population in Data Base:	8 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: CVA/S: A=0.05.B=0.0.	C=0.0; LPH/S: A=0.01.B=0.0.C=0.0
Total Equip. Operating Time (hours):7	212
Total Number of: Failures (CM _f): 10	Corrective Maintenance Events (CM):44
	Total CM Repair Man-Hours: 252
Maintenance Factors:	0.67
MTBCM _f : 721 90% Confidence Interval	MTBCM:163
Upper Limit:	90% Confidence Interval Upper Limit: 214 Lower Limit: 127
Upper Limit: 1329 Lower Limit: 425	Upper Limit: 214
Upper Limit: 1329 Lower Limit: 425 Mainte	Upper Limit: 214 Lower Limit: 127 ninability Indices
Upper Limit: 1329 Lower Limit: 425 Mainte Corrective Maintenance — (Forced Shutdown	Upper Limit: 214 Lower Limit: 127 Ainability Indices Corrective Maintenance — (All Events)
Upper Limit: 1329 Lower Limit: 425 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only)	Upper Limit: 214 Lower Limit: 127 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.8
Upper Limit: 1329 Lower Limit: 425 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.8	Upper Limit: 214 Lower Limit: 127 Ainability Indices Corrective Maintenance — (All Events)
Upper Limit: 1329 Lower Limit: 425 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.8 MCMM _f : 4.0 Max. Observed MH: 21	Upper Limit: 214 Lower Limit: 127 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.8 MCMM _{cm} : 1.2 Max. Observed MH: 50
Upper Limit:	Upper Limit:
Upper Limit: 1329 Lower Limit: 425 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.8 MCMM _f : 4.0	Upper Limit: 214 Lower Limit: 127 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.8 MCMM _{cm} : 1.2 Max. Observed MH: 50
Upper Limit: 1329 Lower Limit: 425 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 5.8 MCMM _f : 4.0 Max. Observed MH: 21 MCMM _f : 8.7	Upper Limit:

Noun Name: Purifier JP-5 Disc Typ	
General Description: Purilier, Circle	7Ø 200 GPM x IØ
	Federal Stock Number: None *(1)
	09
Technical Manual: 345-0479	remail as a left (TST) consider material
Manufacturer: 71871 DeLaval Seperato	or Co.
a ≥ Ba	usic Data
Ship Population: CVA 64, 66;	Equip. Population/Ship: 4 ea/CVA
Equip. Population in Data Base: 8	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=0.05, B=0.0, (
Total Equip. Operating Time (hours):31	1 74
Total Number of: Failures (CMf):3	_ Corrective Maintenance Events (CM):5
Total CMe Repair Man-Hours:5	Total CM Repair Man-Hours:7
Maintenance Factors: 0.6	67
90% Confidence Interval	MTBCM: 694
Upper Limit: 440 Lower Limit: 4249	90% Confidence Interval Upper Limit: 1763 Lower Limit: 330
Lower Limit: 4249	Upper Limit: 1763
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :1.0	Upper Limit: 1763 Lower Limit: 330 nability Indices Corrective Maintenance — (All Events) MTTRom: 0.9
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Upper Limit: 1763 Lower Limit: 330 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.9 MCMM _{cm} : 1.0
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :1.0 MCMM _f :1.0 Max. Observed MH:3	Upper Limit: 1763 Lower Limit: 330 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.9 — MCMM _{cm} : 1.0 — Max. Observed MH: 3
Lower Limit: 4249 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 1.0 MCMM _f : 1.0 Max. Observed MH: 3 MCMM _f : 1.5	Upper Limit: 1763 Lower Limit: 330 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.9 — MCMM _{cm} : 1.0 — Max. Observed MH: 3 — 3 — MCMM _{cm} : 1.4 — 3
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :1.0 MCMM _f :1.0 Max. Observed MH:3	Upper Limit: 1763 Lower Limit: 330 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.9 — MCMM _{cm} : 1.0 — Max. Observed MH: 3
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Upper Limit: 1763 Lower Limit: 330 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.9 — MCMM _{cm} : 1.0 — Max. Observed MH: 3 — MCMM _{cm} : 1.4 — Variance: 1 — Log Normal — Log Normal — Mormal — Log Normal — Mormal — Log Normal — Mormal — Mormal — Log Normal — Mormal — Morm
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Upper Limit: 1763 Lower Limit: 330 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 0.9 — MCMM _{cm} : 1.0 — Max. Observed MH: 3 — MCMM _{cm} : 1.4 — Variance: 1

General Description: System CPCH Prop.	MSO 421 CL Stbd X Port	
CID/APL Number(s): 834900003) was man
Equipment Identification Code: 1H10		
Technical Manual: 344-0020		
Manufacturer: 81601 Norfolk Naval Shi	Lpyard	nastronitarenal i
Manage Control of the		
	Basic Data	
Ship Population: MSO 426, 432, 437, 462, 46	66,508; Equip. Population/Ship:	ea/MSO
Equip. Population in Data Base:	Data Assessment Period: 7/1/67	- 6/30/6
Utilization Factors: S: A=1.00, B=0		
Total Equip. Operating Time (hours):	20345	0
Total Number of: Failures (CM _f):		
Total CM _f Repair Man-Hours:127	Total CM Repair Man-Hours:	188
Maintenance Factors:	0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	d Skill doğu Condeter Maiotecuses)	ance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2906 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2906 90% Confidence Interval Upper Limit: 6193	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval Upper Limit: 4333	61173) . ₁ МЭКТМ Э. 200
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2906 90% Confidence Interval	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval	(1 дерегия 1 дерегия 1 дерегия 1 дерегия
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2906 90% Confidence Interval Upper Limit: 6193 Lower Limit: 15 ¹ 47	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval Upper Limit: 4333	oloff) - _I MORTM 0-888
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2906 90% Confidence Interval Upper Limit: 6193 Lower Limit: 15 ¹ 47	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval Upper Limit: 4333 Lower Limit: 1295 Limability Indices Corrective Maintenance — (All Events)	PACKETHA O ANNO
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2906 90% Confidence Interval Upper Limit: 6193 Lower Limit: 1547 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval Upper Limit: 4333 Lower Limit: 1295 Linability Indices Corrective Maintenance — (All Events)	MORTH AME
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 2906 90% Confidence Interval Upper Limit: 6193 Lower Limit: 1547 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.1	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval Upper Limit: 4333 Lower Limit: 1295 Limability Indices Corrective Maintenance — (All Events)	PACIFIED AND AND AND AND AND AND AND AND AND AN
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$:	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval Upper Limit: 4333 Lower Limit: 1295 Lower Limit: 1295 MTTR _{cm} : 13.9 MCMM _{cm} : 6.7	PACIFIED AND AND AND AND AND AND AND AND AND AN
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval Upper Limit: 4333 Lower Limit: 1295 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.9 MCMM _{cm} : 6.7 Max. Observed MH: 90	PACKETHA O ANNO
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval	PACIFIED AND AND AND AND AND AND AND AND AND AN
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval Upper Limit: 4333 Lower Limit: 1295 Linability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 13.9 MCMM _{cm} : 6.7 Max. Observed MH: 90	MORTH 1MORTH 3 XVC 2 4 Avchagge)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Mainten MTBCM: 2260 90% Confidence Interval	A control

Noun Name: Propellers, Variable Pit	ch was a same and a same a
General Description: System CPCH Prop L	ST 1156 CL Sthd X Port
CID/APL Number(s): 834900007	Federal Stock Number: None *(1)
Equipment Identification Code: 1H10	Supposed Mantal Mantal Codes Codes
Technical Manual: 344-0029	DEBS-ME Mursk resest
Manufacturer: 81601 Norfolk Naval Sh	ipyard
LST 1156,1157,1159,1161,1162	nic Data 2,1163, 0; Equip. Population/Ship: 1 ea/LST *(2)
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: S: A=1.00, B=0.0, C	
Total Equip. Operating Time (hours): 604	
	Corrective Maintenance Events (CM): 48
	Total CM Repair Man-Hours:5608
Maintenance Factors:	
90% Confidence Interval Upper Limit: 7863 Lower Limit: 2925	90% Confidence Interval Upper Limit: 1625 Lower Limit: 990
	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 163.4	MTTR _{cm} :
MCMM _f : 69.6	MCMM _{cm} :11.8
Max. Observed MH: 1107	Max. Observed MH:1107
MCMM _f :245.1 Variance:142293_	MCMM _{cm} :117 Variance:53175
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) Stbd & Port; *(2) One system for two (2) prope	allers

CHAPTER THREE

GENERIC GROUPINGS

This chapter provides a description of the basic entries on the Data Bank Format as they are modified to accommodate the Generic Grouping information and FOMs.

3.1 EQUIPMENT IDENTIFICATION

Equipment identifiers are as follows:

Noun Name. The service application descriptor assigned to equipment as taken from the Equipment Identification Code (EIC) directory.

General Description. The range of design specifications as taken from the Ship Part Control Center (SPCC) Deck E Card Index "A" entries for the group requirements.

CID/APL Number(s). The Component Identification (CID) Numbers/Allowance Part List (APL) Numbers assigned to the specific equipments. In the case of a system comprising many CID/APLs, the primary equipment/system CID will be listed. All the CIDs comprising the generic group will be identified.

Federal Stock Number (FSN). The Federal Stock Numbers will not be listed on the Generic Grouping Data Sheet. FSNs can be obtained by referring to the individual CID data sheets.

Equipment Identification Code. The seven-digit Equipment Identification Codes (EICs) as taken from the EIC Directory, used to code the equipments in reporting maintenance data. Both the Generation I and Generation III MDCS EICs will be reported.

Technical Manual. The NAVSHIPS Technical Manual Numbers will not be listed on the Generic Groupings Data Sheet, but can be obtained by referring to the individual CID data sheets.

Manufacturer. The manufacturers of the equipments will not be listed, but can be obtained by referring to the individual CID data sheets.

3.2 BASIC DATA

The following are the basic data elements used in the development of the R&M indices:

Ship Population. The ship types, e.g., DD/DDG/LST, etc., containing the equipments comprising the Generic Grouping. Individual hull numbers can be obtained by referring to the individual CID data sheets.

Equipment Population/Ship. This information will not be listed for the Generic Grouping, but can be obtained as described above.

Total Equipment Population in Data Base. The total number of equipments that comprise the data base.

<u>Data-Assessment Period</u>. The period of time comprising the data period: beginning month/year - ending month/year - number of months.

Utilization Factors $(K_{\underline{u}})$. Used for the individual equipment operating-time development and shown on the individual CID data sheets.

Total Equipment Operating Time. The sum of total equipment operating times recorded on the individual CID/APL data sheets for those equipments included in the Generic Grouping.

Total Number of Failures (CM_{f}). The sum of the forced-shutdown corrective-maintenance events as recorded on the individual CID/APL data sheets for the equipments included in the Generic Grouping.

Total Number of Corrective-Maintenance Events (CM). The sum of the CM events for the equipments in the Generic Grouping.

Total CM_{f} Repair Man-Hours. The sum of the total CM_{f} repair man-hours for the individual equipments in the Generic Grouping.

Total CM Repair Man-Hours. The sum of the total CM repair man-hours for the individual equipments in the Generic Grouping.

Maintenance Factor. This factor is not used again in the development of the FOM indices for generically grouped equipments, since these indices use the FOMs for the individual CID/APL equipments as input data in which the maintenance factors have already been incorporated.

3.3 FOM INDICES FOR GENERIC GROUPS

The reliability and maintainability FOMs for the Generic Groupings are computed exactly as they are for an individual equipment. The definitions and formula used are shown in Volume I, Chapter Two, Sections 2.2.3 and 2.2.4.

3.4 GENERIC-GROUP DATA SHEETS

The following pages comprise the analyses of Generic Groupings (i.e., equipments of similar type and rating) of the Data Bank in the same CID sequence as Chapter Two. These groupings contain complete generic groups consisting of data analyzed under previous ARINC Research studies, as noted in the "Remarks" section of the data sheets. However, these groupings do not contain indices of previous ARINC Research studies mixed with those developed for this study. This separation was made because of the differences in the equipment configurations analyzed in the various studies.

. ...

Equipm	ent identification
Noun Name: Pump, JP-5 & Gasoline S	Serv., Trans, Aviation and Automotive
General Description: Pump, CTFGL, Fuel	
CID/APL Number(s): 016000318* (1)	Federal Stock Number:**
Equipment Identification Code: AJ53	3/AJ82/AJ38
Technical Manual: ##	PE Special Application
Manufacturer:	48
pripe!	Basic Data
Ship Population: CVA/LPH/LSD	Equip. Population/Ship: **
Equip Population in Data Rase: 38	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	Data Assessment Lends. / 1/ 5 5/ 5/ 5/
Total Equip. Operating Time (hours):	22022
Total Number of: Failures (CMs): 13	Corrective Maintenance Events (CM):31
	Total CM Repair Man-Hours:1681
Maintenance Factors: 0.67	10tal CM Repair Man-Hours:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 1694 90% Confidence Interval	MTBCM: 710 90% Confidence Interval Unper Limit: 981
Upper Limit: 2864	506
Lower Limit: 1065	Lower Limit: 520
	4-1-14 T-14
Mainu	ainability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f : 21.3	MTTR _{cm} :36.2
MCMM _f :	MCMM _{cm} : 16.0
Max. Observed MH: 134	Max. Observed MH: 239
MCMM _f : 31.9	MCMM _{cm} : 542
Variance: 1673	Variance: 5419
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: (1) 016030980, 0160601	50 **See individual CID data sheets
	Access to access the second control of

General Description: Pump - CTRGI.	er, Salt Water Circulating , 1,600 - 28,500 GPM
CID/APL Number(s): 01603	
Equipment Identification Code: ZH	
Fechnical Manual: **	PAS Transfer Stranger of L
Manufacturer:**	wire Port-Arrest
	Basic Data
Ship Population: DE, LSD, DD, DDG, DL	G, AQ Equip. Population/Ship: **
Equip. Population in Data Base:12	7 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	
Total Equip. Operating Time (hours):	292346
Total Number of: Failures (CM _f):5	Corrective Maintenance Events (CM): 132
Total CM _f Repair Man-Hours:3	51 Total CM Repair Man-Hours: 1963
Maintenance Factors:	0.67
(Forced Shutdown Corrective Mainten	ance)
(Forced Shutdown Corrective Mainten MTBCM _f : 5846 90% Confidence Interval Upper Limit: 7503	ance) MTBCM: 2214 90% Confidence Interval Upper Limit: 2572
(Forced Shutdown Corrective Mainten MTBCM _f : 5846 90% Confidence Interval	ance) MTBCM: 2214 90% Confidence Interval
(Forced Shutdown Corrective Mainten MTBCM _f :	ance) MTBCM: 2214 90% Confidence Interval Upper Limit: 2572
(Forced Shutdown Corrective Mainten MTBCM _f : 5846 90% Confidence Interval Upper Limit: 7503 Lower Limit: 4619	MTBCM:
(Forced Shutdown Corrective Mainten MTBCM _f :	MTBCM: 2214 90% Confidence Interval Upper Limit: 2572 Lower Limit: 1917 Maintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainten MTBCM _f :	MTBCM: 2214 90% Confidence Interval Upper Limit: 2572 Lower Limit: 1917 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.9
(Forced Shutdown Corrective Mainten MTBCM _f :	MTBCM: 2214 90% Confidence Interval Upper Limit: 2572 Lower Limit: 1917 Maintainability Indices m Corrective Maintenance — (All Events) MTTR _{cm} : 9.9 MCMM _{cm} : 2.0
(Forced Shutdown Corrective Mainten MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Mainten MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Mainten MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Mainten MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Mainten MTBCM _f :	MTBCM:

Noun Name: Pump, Fresh Water Service	e and Booster
General Description: Pump, CTFGL 25 GPM	M 10 PSI to 200 GPM PSI
CID/APL Number(s):016030990,016031073	
Equipment Identification Code: AH17000/	/AH22000
	PA Compatible content
Manufacturer: **	32 September 3
	asic Data
AE/AO/AFS/CVA/DD/DDG/DE	
	Equip. Population/Ship: **
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	130805/
Total Equip. Operating Time (hours):	
Total CM _f Repair Man-Hours: 846	Total CM Repair Man-Hours:3276
Maintenance Factors: 0.67	Victoria Participation Committee Committee
MTBCM _f :16148 90% Confidence Interval Upper Limit:19586 Lower Limit:13424	MTBCM: 4880 90% Confidence Interval Upper Limit: 5413 Lower Limit: 4411
	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 7.0 MCMM _f : 3.0	MTTR _{cm} : 8.2
	MCMM _{cm} :
Max. Observed MH: 95	Max. Observed MH:250
MCMM _f : 10.4	MCMM _{cm} : 12.2
Variance: 432	Variance: 567
Indicated Distribution(s): Exponential	Normal Log Normal
	,016060057,016060093,016060119,016060231
016110036,016110037,016110273,016	6120154,016120216,017900010,017900027,
017900069: **See individual CID	data sheets

	ondensate	
General Description: Pt	ump	7. 1. 1.04. 1. N
CID/APL Number(s): 0	16031005 *(1)	Federal Stock Number:
		0
rechnical Manual: **		The state of the s
Manufacturer: **		
	Basi	c Data
Ship Population: DD/DDG/DE/	DLG/LSD	Equip. Population/Ship: **
Equip. Population in Data Base:	382	Data Assessment Period: 7/1/67 - 6/30/69
		<u> </u>
Total Equip. Operating Time (hor	urs):20	15176
Total Number of: Failures (CM	(f): 348	Corrective Maintenance Events (CM):1173
		Total CM Repair Man-Hours: 24703
Maintenance Factors:	0.67	Total on Reput Man 1000
Mean Time Between Failure		
(Forced Shutdown Corrective	e Maintenance)	(Compared at them) is supplied by the st
MTBCM _f : 5790		MTBCM: 1717
MTBCM _f : 5790 90% Confidence Interval		90% Confidence Interval
MTBCM _f : 5790 90% Confidence Interval Upper Limit: 633	9	90% Confidence Interval Upper Limit:1804
MTBCM _f : 5790 90% Confidence Interval	9	90% Confidence Interval
MTBCM _f : 5790 90% Confidence Interval Upper Limit: 633	9 9	90% Confidence Interval Upper Limit: 1804 Lower Limit: 1637
MTBCM _f : 5790 90% Confidence Interval Upper Limit: 633	9 9	90% Confidence Interval Upper Limit: 1804
MTBCM _f : 5790 90% Confidence Interval Upper Limit: 633	9 9 Maintaina	90% Confidence Interval Upper Limit: 1804 Lower Limit: 1637
90% Confidence Interval Upper Limit: 633 Lower Limit: 529 Corrective Maintenance – (Forced Failure Events Only)	9 9 Maintaina	90% Confidence Interval Upper Limit: 1804 Lower Limit: 1637 Ability Indices Corrective Maintenance — (All Events)
MTBCM _f : 5790 90% Confidence Interval Upper Limit: 633 Lower Limit: 529 Corrective Maintenance – (Forced Failure Events Only) MTTR _f : 10.0	9 9 Maintaina	90% Confidence Interval Upper Limit: 1804 Lower Limit: 1637 Shility Indices Corrective Maintenance — (All Events) MTTR _{cm} : 14.0
MTBCM _f : 5790 90% Confidence Interval Upper Limit: 633 Lower Limit: 529 Corrective Maintenance – (Forced Failure Events Only) MTTR _f : 10.0 MCMM _f : 2.0	9 9 Maintaina d Shutdown	90% Confidence Interval Upper Limit:
MTBCM _f :	9 9 Maintaina d Shutdown	90% Confidence Interval Upper Limit:
MTBCM _f :	9 9 Maintaina d Shutdown	90% Confidence Interval Upper Limit:
MTBCM _f :	9 9 Maintaina d Shutdown	90% Confidence Interval Upper Limit:
MTBCM _f :	9 9 Maintaina d Shutdown	90% Confidence Interval Upper Limit:
MTBCM _f :	9 Maintaina d Shutdown	90% Confidence Interval
MTBCM _f :	Maintaina d Shutdown onential	90% Confidence Interval
#REMARKS:	Maintaina d Shutdown onential 016160012,016	90% Confidence Interval

General Description: Pump - 300 - 1	
CID/APL Number(s): 016031226 *(1)	
Equipment Identification Code:	2403000
Technical Manual: ## Manufacturer: ##	And the second of the second o
wanutacturer:	The control of the co
	Basic Data
Ship Population: DDG, DLG, DE, LSD, DD,	AQ, *(2) Equip. Population/Ship: **
Equip. Population in Data Base:	
Utilization Factors:	
Total Equip. Operating Time (hours):	
Total Number of: Failures (CM _f):	690 Corrective Maintenance Events (CM): 1628
Total CM _f Repair Man-Hours: 11792	Total CM Repair Man-Hours: 32174
	0.67
	Reliability Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance	
MTBCM _f : 2826	MTBCM:1197
90% Confidence Interval	90% Confidence Interval
Upper Limit: 3013	Upper Limit: 1248
Lower Limit: 2654	Lower Limit: 1150
though the col	aintainability Indices
Miles and the second se	aintainability indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Property of the State of the St
MTTR _f : 11.3 MCMM _f : 2.9	MTTR _{cm} : 13.2 MCMM : 3.0
MCMM:	cm.
	May ()hearward MH.
Max. Observed MH: 999	Max. Observed MH: 7
Max. Observed MH: 999 MCMM _f : 17.0	Max. Observed MH:
Max. Observed MH: 999 MCMM _f : 17.0 Variance: 5687	MCMM _{cm} : 19.8 Variance: 6533
Max. Observed MH: 999 MCMM _f : 17.0 Variance: 5687 Indicated Distribution (s): Exponential	MCMM _{cm} : 19.8 Variance: 6533 Normal Log Normal
Max. Observed MH: 999 17.0 Variance: 5687 Indicated Distribution(s): Exponential *REMARKS: *(1)016160241,0170206	MCMM _{cm} : 19.8 Variance: 6533

Noun Name: Pump, Hot Fresh Water	
General Description: Pump, CTFGL 5 GPM	1 to & GPM
CID/APL Number(s): 016060276 *(1)	Federal Stock Number:**
Equipment Identification Code: AH31	Coderins Manuals - PS
Technical Manual: **	
Manufacturer: **	
	Basic Data
AFS/AO/CVA/DD/DDG/DE/DE	
	Equip. Population/Ship: **
Utilization Factors: **	Data Assessment Period: 7/1/67 - 6/30/69
Total Equip. Operating Time (hours):	3670050
	Corrective Maintenance Events (CM): 113
보이 들어들이 하나 없는 것이 되었다면 하는 것 때 경기를 제공하여 가면 하는데 되었다면 되었다.	
	Total CM Repair Man-Hours:888
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	ability Indices Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval Upper Limit: 78185	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval Upper Limit: 38199
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval Upper Limit: 78185 Lower Limit: 50092	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval Upper Limit: 38199
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval Upper Limit: 78185 Lower Limit: 50092 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval Upper Limit: 78185 Lower Limit: 50092 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 7.0	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval Upper Limit: 78185 Lower Limit: 50092 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 7.0 MCMM _f : 4.9	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval Upper Limit: 38199 Lower Limit: 27786 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2 MCMM _{cm} : 3.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval Upper Limit: 78185 Lower Limit: 50092 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 7.0 MCMM _f : 4.9 Max. Observed MH: 99	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval Upper Limit: 38199 Lower Limit: 27786 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2 MCMM _{cm} : 3.0 Max. Observed MH: 99
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval Upper Limit: 38199 Lower Limit: 27786 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2 MCMM _{cm} : 3.0 Max. Observed MH: 99 MCMM _{cm} : 7.8
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval Upper Limit: 78185 Lower Limit: 50092 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 7.0 MCMM _f : 4.9 Max. Observed MH: 99	Mean Time Between Corrective Maintenance MTBCM: 32486 90% Confidence Interval Upper Limit: 38199 Lower Limit: 27786 Ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2 MCMM _{cm} : 3.0 Max. Observed MH: 99
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 62219 90% Confidence Interval Upper Limit: 78185 Lower Limit: 50092 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 7.0 MCMM _f : 4.9 Max. Observed MH: 99 MCMM _f : 10.5	MTBCM: 32486 90% Confidence Interval Upper Limit: 38199 Lower Limit: 27786 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.2 MCMM _{cm} : 3.0 Max. Observed MH: 99 MCMM _{cm} : 7.8 Variance: 208 Normal Log Normal

	Federal Stock Number: **
Manufacturer: **	
Ba	sic Data
Ship Population: DLG, DDG, LSD, AO	Equip. Population/Ship: **
Equip. Population in Data Base: 124	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: **	
Total Equip. Operating Time (hours):	672627
Total Number of: Failures (CM _f): 51	_ Corrective Maintenance Events (CM): 244
Total CMe Repair Man-Hours: 852	Total CM Repair Man-Hours:5821
Maintenance Factors: 0.67	
(Forced Shutdown Corrective Maintenance)	
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f : 13188	MTBCM: 2756
MTBCM _f : 13188 90% Confidence Interval	90% Confidence Interval
MTBCM _f :13188 90% Confidence Interval Upper Limit:16880	90% Confidence Interval Upper Limit: 3073
MTBCM _f : 13188 90% Confidence Interval	90% Confidence Interval
MTBCM _f :13188 90% Confidence Interval Upper Limit:16880 Lower Limit:10444	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479
MTBCM _f :13188 90% Confidence Interval Upper Limit:16880 Lower Limit:10444	90% Confidence Interval Upper Limit: 3073
MTBCM _f :13188 90% Confidence Interval Upper Limit:16880 Lower Limit:10444 Maintair	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479
MTBCMf:	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479
MTBCMf:	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479 nability Indices Corrective Maintenance — (All Events)
MTBCM _f :13188 90% Confidence Interval Upper Limit:16880 Lower Limit:10444 Maintair Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :11.1	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.9 MCMM _{cm} : 8.0
MTBCM _f :	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.9 MCMM _{cm} : 8.0 Max. Observed MH: 247
MTBCM _f :13188 90% Confidence Interval	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.9 MCMM _{cm} : 8.0 Max. Observed MH: 247 MCMM _{cm} : 23.9
MTBCM _f :13188 90% Confidence Interval Upper Limit:16880 Lower Limit:10444 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :11.1 MCMM _f :2.5	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.9 MCMM _{cm} : 8.0 Max. Observed MH: 247
MTBCM _f :13188 90% Confidence Interval	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.9 MCMM _{cm} : 8.0 Max. Observed MH: 247 MCMM _{cm} : 23.9
MTBCM _f :	90% Confidence Interval Upper Limit: 3073 Lower Limit: 2479 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 15.9 MCMM _{cm} : 8.0 Max. Observed MH: 247 MCMM _{cm} : 23.9 Variance: 1489 Normal Log Normal
MTBCM _f :13188 90% Confidence Interval	90% Confidence Interval Upper Limit:
MTBCM _f :13188 90% Confidence Interval	90% Confidence Interval Upper Limit:

	- 490 G	**
CID/APL Number(s): 016160039		Federal Stock Number:
quipment Identification Code:	ZQ020	000
echnical Manual:		
fanufacturer: **		and the second s
	Bas	sic Data
Ship Population: DD, DE, DDG, DLG		Equip. Population/Ship: **
Equip. Population in Data Base:		Data Assessment Period: 7/1/67 - 6/30/69
Jtilization Factors: **		
Total Equip. Operating Time (hours):	2	2611865
Total Number of: Failures (CMf):	457	Corrective Maintenance Events (CM): 1209
Total CM _f Repair Man-Hours:	4157	Total CM Repair Man-Hours: 19978
Maintenance Factors:		
Mean Time Between Failure (Forced Shutdown Corrective Maint MTBCM _f : 5715	enance)	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maint MTBCM _f : 5715 90% Confidence Interval Upper Limit: 6183	enance)	Mean Time Between Corrective Maintenance MTBCM: 2160 90% Confidence Interval Upper Limit: 2267
(Forced Shutdown Corrective Maint MTBCM _f : 5715 90% Confidence Interval	1008014 200	Mean Time Between Corrective Maintenance MTBCM: 2160 90% Confidence Interval Upper Limit: 2267 Lower Limit: 2060
(Forced Shutdown Corrective Maint MTBCM _f : 5715 90% Confidence Interval Upper Limit: 6183 Lower Limit: 5290	— — Maintain	Mean Time Between Corrective Maintenance MTBCM: 2160 90% Confidence Interval Upper Limit: 2267 Lower Limit: 2060 ability Indices
(Forced Shutdown Corrective Maint MTBCM _f : 5715 90% Confidence Interval	— — Maintain	Mean Time Between Corrective Maintenance MTBCM: 2160 90% Confidence Interval Upper Limit: 2267 Lower Limit: 2060 ability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maint MTBCM _f : 5715 90% Confidence Interval Upper Limit: 6183 Lower Limit: 5290 Forrective Maintenance — (Forced Shutdens Failure Events Only) MTTR _f : 6.0	— — Maintain	Mean Time Between Corrective Maintenance MTBCM:2160 90% Confidence Interval
(Forced Shutdown Corrective Maint MTBCM _f :	— — Maintain	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maint MTBCM _f :	— — Maintain	Mean Time Between Corrective Maintenance MTBCM:2160 90% Confidence Interval
(Forced Shutdown Corrective Maint MTBCM _f :	— — Maintain	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maint MTBCM _f :	— — Maintain	Mean Time Between Corrective Maintenance MTBCM:2160 90% Confidence Interval
(Forced Shutdown Corrective Maint MTBCM _f :	Maintaina	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maint MTBCM _f :	Maintain	MCMM _{cm} : 16.5 MCMM _{cm} : 1385 Max. Observed MH: 1 MCMM _{cm} : 1385

General Description:Pump	, RTY, Fuel Oi	.1, 50 GPM to 100 GPM	Special Description
		Federal Stock Number: **	
Equipment Identification Code:			
Technical Manual:			
Manufacturer: **			Access do all
	Ba	sic Data	
Ship Population: CVA/DD/DE	/DEG/LPD/LPH	Equip. Population/Ship: **	
		Data Assessment Period: 7/1/	
Utilization Factors: **			
Total Equip. Operating Time (h	nours):	49571	
Total Number of: Failures (C	CM _f): 19	_ Corrective Maintenance Events (CM):	55
Total CMf Repair Man-Hours:	65	Total CM Repair Man-Hours:	468
Maintenance Factors:			t months to the last of
(Forced Shutdown Correct	ive Maintenance)	Mean Time Between Corrective Main	tenance
(Forced Shutdown Correct MTBCM _f : 2609 90% Confidence Interval	ive Maintenance)	Mean Time Between Corrective Main MTBCM: 901 90% Confidence Interval	Classical ACSESSA Cody Side
(Forced Shutdown Correct MTBCM _f : 2609 90% Confidence Interval Upper Limit: 39	ive Maintenance) - 84	Mean Time Between Corrective Mains MTBCM: 901 90% Confidence Interval Upper Limit: 1142	Elemati) i-MDRYM naty 200
(Forced Shutdown Correct MTBCM _f : 2609 90% Confidence Interval	ive Maintenance) - 84	Mean Time Between Corrective Main MTBCM: 901 90% Confidence Interval	Electronics AMDRIM DAY 2000
(Forced Shutdown Correct MTBCM _f : 2609 90% Confidence Interval Upper Limit: 39	ive Maintenance) 84 78	Mean Time Between Corrective Mains MTBCM: 901 90% Confidence Interval Upper Limit: 1142 Lower Limit: 720	Elemati) i-MDRYM naty 200
(Forced Shutdown Correct MTBCM _f : 2609 90% Confidence Interval Upper Limit: 39	ive Maintenance) 84 78	Mean Time Between Corrective Mains MTBCM: 901 90% Confidence Interval Upper Limit: 1142	Elemati) i-MDRYM naty 200
(Forced Shutdown Correct MTBCMf: 2609 90% Confidence Interval Upper Limit: 39 Lower Limit: 17	ive Maintenance) 84 78 Maintain	Mean Time Between Corrective Mains MTBCM: 901 90% Confidence Interval Upper Limit: 1142 Lower Limit: 720 ability Indices	- MGRYM - MGRY
(Forced Shutdown Correct MTBCM _f : 2609 90% Confidence Interval Upper Limit: 39 Lower Limit: 17 Corrective Maintenance — (Force Failure Events Only)	ive Maintenance) 84 78 Maintain	Mean Time Between Corrective Mains MTBCM: 901 90% Confidence Interval Upper Limit: 1142 Lower Limit: 720 ability Indices Corrective Maintenance — (All Events	- MGRYM
(Forced Shutdown Correct MTBCM _f :	ive Maintenance) 84 78 Maintain	Mean Time Between Corrective Main MTBCM: 901 90% Confidence Interval Upper Limit: 1142 Lower Limit: 720 ability Indices Corrective Maintenance — (All Events MTTR _{cm} : 5.7	- MGRYM
(Forced Shutdown Correct MTBCM _f :	Maintain ed Shutdown	Mean Time Between Corrective Mains MTBCM: 901 90% Confidence Interval Upper Limit: 1142 Lower Limit: 720 ability Indices Corrective Maintenance — (All Events MTTR _{cm} : 5.7 MCMM _{cm} : 4.0	- MGRTM outy and
(Forced Shutdown Correct MTBCM _f :	ive Maintenance) 84 78 Maintain	Mean Time Between Corrective Mains MTBCM:901 90% Confidence Interval Upper Limit:1142 Lower Limit:720 ability Indices Corrective Maintenance — (All Events MTTR _{cm} :	- MGRYM
(Forced Shutdown Correct MTBCM _f :	Maintain ed Shutdown	Mean Time Between Corrective Mains MTBCM: 901 90% Confidence Interval Upper Limit: 1142 Lower Limit: 720 ability Indices Corrective Maintenance — (All Events MTTR _{cm} : 5.7 MCMM _{cm} : 4.0	- MGRTM outy and
(Forced Shutdown Correct MTBCM _f :	Maintain ed Shutdown	Mean Time Between Corrective Mains MTBCM:901 90% Confidence Interval Upper Limit:1142 Lower Limit:720 ability Indices Corrective Maintenance — (All Events MTTR _{cm} :4.0 MCMM _{cm} :4.0 Max. Observed MH:91 MCMM _{cm} :8.5 Variance:	- MOSTM outy Stel

Noun Name: Pump, Condensate, SSTG	NEW CONTROL A PART LANGE COME THAT
General Description: Pump	a But the Committee of
CID/APL Number(s): 016230145 *(1)	Federal Stock Number: **
Equipment Identification Code: AP28000	aland analysis angle of community
Technical Manual: **	# # Approved for a Maria
Manufacturer: **	yetubal amM
Manufacturer.	
R	asic Data
Ship Population: DLG, DD, DDG, DE, AO, LSD	
Equip. Population in Data Base: 263	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	##
Total Equip. Operating Time (hours):175	78845
Total Number of: Failures (CM _f): 144	Corrective Maintenance Events (CM):536
Total CMe Repair Man-Hours: 1171	Total CM Repair Man-Hours:6928
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 12353 90% Confidence Interval Upper Limit: 14248	Mean Time Between Corrective Maintenance MTBCM:3318 90% Confidence Interval Upper Limit:3568
Lower Limit: 10757	Lower Limit: 3090
	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only) MTTR _f : 5.4	MTTR _{cm} : 8.6
$MCMM_f$: 2.0	MCMM _{cm} : 4.7
Max. Observed MH: 190	Max. Observed MH:190
	MCMM _{cm} : 12.9
MCMM _f :8.1	Variance: 464
variance:	Variance.
Indicated Distribution(s): Exponential	Normal Log Normal
016160002; **See individual CID	data sheets. Note: These indices were ARINC Research Report 933-02-3-1153. See

General Description: Pump, Vacuum, RTY P	ower 10 - 15 CFM 1750 RPM
CID/APL Number(s): 017070056 *(1)	Federal Stock Number: **
Equipment Identification Code: AH22000	ـــ المستخصصة المستخران المستخدم المستخدم المستخدم المستخدم المستخدم المستخدمات المستخدم
Technical Manual: **	
Manufacturer: **	_
Bat	sic Data
Ship Population: CVA/DD/DDG/DLG/LPD/LPH	Equip. Population/Ship:**
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	,
Total Equip. Operating Time (hours):	719190
Total Number of: Failures (CM _f): 9	_ Corrective Maintenance Events (CM):37
	Total CM Repair Man-Hours: 195
Maintenance Factors:0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Lineage of the Minister of the Committee
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 79910 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 19437 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 79910	Mean Time Between Corrective Maintenance MTBCM: 19437
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 79910 90% Confidence Interval Upper Limit: 153174 Lower Limit: 45793	Mean Time Between Corrective Maintenance MTBCM: 19437 90% Confidence Interval Upper Limit: 26063
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 79910 90% Confidence Interval Upper Limit: 153174 Lower Limit: 45793 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 19437 90% Confidence Interval Upper Limit: 26063 Lower Limit: 14775
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 79910 90% Confidence Interval Upper Limit: 153174 Lower Limit: 45793 Maintain Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 4.1	Mean Time Between Corrective Maintenance MTBCM: 19437 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 19437 90% Confidence Interval Upper Limit: 26063 Lower Limit: 14775 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 3.5 MCMM _{cm} : 3.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 19437 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 19437 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM: 19437 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

Noun Name: Turbine, Main Condensate	e Pump
General Description: Turbine	and their applicable applicable appropriate process.
CID/APL Number(s): 057150043 *(1)	Federal Stock Number: **
Equipment Identification Code: ZQ1000	
	A deposit terrorial
Manufacturer: **	Company of Control
Be Be	sic Data
Ship Population:DD/DDG	Equip. Population/Ship: **
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	A Company of the Comp
Total Equip. Operating Time (hours):	293229
	Corrective Maintenance Events (CM):579
Total CMc Repair Man-Hours: 4855	Total CM Repair Man-Hours:8807
Maintenance Factors: 0.67	
MTBCM _f :17476 90% Confidence Interval Upper Limit:21397	90% Confidence Interval Upper Limit: 2395
Lower Limit: 14403	Lower Limit: 2085
Maintair	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 41.5	MTTR _{cm} :
MCMM _f : 8.4	MCMM _{cm} :
Max. Observed MH: 1334	Max. Observed MH:1334
MCMM _f : 62.2	MCMM _{cm} : 15.2 Variance: 5064
Variance:33733	variance:
Indicated Distribution(s): Exponential	Normal Log Normal
	individual CID data sheets. Note: These
	analyzed for ARINC Research Report 933-
02-3-1153. See Appendix A for equ	ipment configuration.

Noun Name: Turbine, SSTG Set	
General Description: Turbine - 750-2000	KW
CID/APL Number(s): 057150181 *(1)	Federal Stock Number: **
Equipment Identification Code: APO1000	
Technical Manual: **	The state of the s
Manufacturer: **	
Bas	sic Data
Ship Population: DLG	Equip. Population/Ship: **
Equip. Population in Data Base: 40	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	
Total Equip. Operating Time (hours):1577	27
Total Number of: Failures (CM _f): 16	_ Corrective Maintenance Events (CM):99
Total CMe Repair Man-Hours: 1319	_ Total CM Repair Man-Hours:2723
Maintenance Factors: 0.6	7
90% Confidence Interval Upper Limit: 15717	90% Confidence Interval Upper Limit:1895
Lower Limit: 6490	Lower Limit: 1348
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Eglem Events (3014)
MTTR _f :	MTTR _{cm} :18.3
MCMM _f : 21.3	MCMM _{cm} : 8.0
Max. Observed MH: 746	Max. Observed MH: 746
MCMM _f : 82.4	MCMM _{cm} : 27.5 Variance: 6142
Variance: 32830	variance:
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 057300046; **See i indices were developed from data 02-3-1153. See Appendix A for equ	ndividual CID data sheets. Note: These analyzed for ARINC Research Report 933

Noun Name:Turbine, SSTG Set	
General Description: Turbine - 0-750 KW	
	Federal Stock Number: **
Equipment Identification Code: AP01000	A STATE OF THE STA
La contra de la contra del la contra del la contra del la contra del la contra de la contra de la contra del la contra d	
Manufacturer: **	Sens Clonely
Ba.	sic Data
Ship Population: AO/DD/DDG/DE/DLG	Equip. Population/Ship: **
Equip. Population in Data Base: 204	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	2 1 1 1 1 1 1
Total Equip. Operating Time (hours):	1345932
	Corrective Maintenance Events (CM): 714
	Total CM Repair Man-Hours:16075
Maintenance Factors:	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:1885 90% Confidence Interval Upper Limit:2007 Lower Limit:1772
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :	Corrective Maintenance — (All Events) MTTR _{cm} :
Max. Observed MH:1005	Max. Observed MH:1005
MCMM _f :34.8	MCMM _{cm} : 22.5
Variance: 11559	Variance: 3708
Indicated Distribution(s): Exponential	Normal Log Normal
vidual CID data sheets. Note: Thes	e indices were developed from data 933-02-3-1153. See Appendix A for

CID/APL Number(s): 05/300039 *(1)	Federal Stock Number:**
pad	Basic Data
Ship Population: AO/DD/DDG/DE/DLG/LSD	Fauin Population/Shin: **
Equip Population in Data Rase: 316	Data Assessment Period: 7/1/67 - 6/30/69
Julization Factors: **	
Total Equip. Operating Time (hours):	
Total Number of: Failures (CMe): 82	Corrective Maintenance Events (CM):690
	Total CM Repair Man-Hours:16191
Maintenance Factors: 0.67	Total CM Repair Man-riours
(Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval	Powed Sauti laws Correction Educations
MTBCM _f : 21641	MTBCM: 2571 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval Upper Limit: 26215 Lower Limit: 18010	MTBCM: 2571 90% Confidence Interval Upper Limit: 2741
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval Upper Limit: 26215 Lower Limit: 18010 Maintai	MTBCM:2571 90% Confidence Interval Upper Limit:2741 Lower Limit:2415
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCMf:	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval Upper Limit: 26215 Lower Limit: 18010 Maintai Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 36.3 MCMM _f : 7.6 Max. Observed MH: 1002	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 21641 90% Confidence Interval Upper Limit: 26215 Lower Limit: 18010 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 36.3 MCMM _f : 7.6 Max. Observed MH: 1002 MCMM _f : 54.4 Variance: 25456	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:

General Description: Turbine		
CID/APL Number(s): 057700077	*(1)	Federal Stock Number: **
Equipment Identification Code:	ZQ12000	tre a 2011 april Enteranders transport
Technical Manual:**		dageall commiss
Manufacturer: **		- Alexandra
	Bas	sic Data
Phin Population: DD/DDG		Equip. Population/Ship:**
Fauin Population in Data Rase:	238	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **		AMERICAN SALES AND
Total Equip. Operating Time (hours)		1387490
Total Number of: Failures (CM _f):	70	_ Corrective Maintenance Events (CM):
Total CMe Repair Man-Hours:	2439	Total CM Repair Man-Hours: 7949
Maintenance Factors:		0.67
(Forced Shutdown Corrective M	aintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective M MTBCM _f : 19821	aintenance)	MTBCM: 2367
MTBCM _f : 19821 90% Confidence Interval		MTBCM: 2367 90% Confidence Interval
(Forced Shutdown Corrective M MTBCM _f : 19821 90% Confidence Interval Upper Limit: 24415	L BOSTM SO SEE	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538
(Forced Shutdown Corrective M MTBCM _f : 19821 90% Confidence Interval	L BOSTM SO SEE	MTBCM: 2367 90% Confidence Interval
(Forced Shutdown Corrective M MTBCM _f : 19821 90% Confidence Interval Upper Limit: 24415	SHORTM SO 4886 NO	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538
(Forced Shutdown Corrective M MTBCM _f : 19821 90% Confidence Interval Upper Limit: 24415 Lower Limit: 16246	Maintain	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538 Lower Limit: 2211 ability Indices
(Forced Shutdown Corrective M MTBCM _f : 19821 90% Confidence Interval Upper Limit: 24415 Lower Limit: 16246 Corrective Maintenance — (Forced Sh	Maintain	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538 Lower Limit: 2211
(Forced Shutdown Corrective M MTBCM _f : 19821 90% Confidence Interval Upper Limit: 24415 Lower Limit: 16246 Corrective Maintenance — (Forced Sh	Maintain	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538 Lower Limit: 2211 ability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective M MTBCM _f : 19821 90% Confidence Interval Upper Limit: 24415 Lower Limit: 16246 Corrective Maintenance — (Forced Sh Failure Events Only) MTTR _f : 22.9	Maintain	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538 Lower Limit: 2211 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.0
(Forced Shutdown Corrective M MTBCM _f : 19821 90% Confidence Interval Upper Limit: 24415 Lower Limit: 16246 Corrective Maintenance — (Forced Sh Failure Events Only) MTTR _f : 22.9 MCMM _f : 9.9	Maintain	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538 Lower Limit: 2211 ability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective M MTBCM _f :	Maintain	MTBCM:
(Forced Shutdown Corrective M MTBCM _f :	Maintain	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538 Lower Limit: 2211 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.0 MCMM _{cm} : 3.0
(Forced Shutdown Corrective M MTBCM _f :	Maintain autdown	MTBCM: 2367 90% Confidence Interval Upper Limit: 2538 Lower Limit: 2211 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.0 MCMM _{cm} : 3.0 Max. Observed MH: 512 MCMM _{cm} : 13.6 Variance: 1416
(Forced Shutdown Corrective M MTBCM _f :	Maintain autdown	MTBCM:
(Forced Shutdown Corrective M MTBCM _f :	Maintain utdown ntial	MTBCM:

Noun Name: Turbine, Main, Salt Wat	er, Circulating Pump
General Description: Turbine	or o
	Federal Stock Number: **
Equipment Identification Code: ZHO4000	
- · · · · · · · · · · · · · · · · · · ·	
Manufacturer: **	
Mailutacturer.	
Pa-	sic Data
Da.	or Data
Ship Population: DD/DDG/DE/DEG/DLG	Equip. Population/Ship: **
Equip. Population in Data Base: 182	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	
Total Equip. Operating Time (hours):5	19413
Total Number of: Failures (CM _f): 24	Corrective Maintenance Events (CM): 190
Total CMe Repair Man-Hours: 1627	Total CM Repair Man-Hours: 3790
	7
MTBCM _f : 21642 90% Confidence Interval Upper Limit: 31387 Lower Limit: 15389	MTBCM: 2733 90% Confidence Interval Upper Limit: 3093 Lower Limit: 2424
Maintain	ability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 45.2	MTTR _{cm} :13.3
MCMM _f : 5.0 Max. Observed MH: 1000	MCMM _{cm} : 3.3 Max. Observed MH: 1000
MCMM _f : 67.8	MCMM _{cm} : 19.9
Variance: 44765	Variance: 6409
Variance:	variance: 0409
Indicated Distribution(s): Exponential	Normal Log Normal
057950079; **See individual CID developed from data analyzed for	8, 057950046, 057800064, 057800132, data sheets. Note: These indices were ARINC Research Report 933-02-3-1153.
See Appendix A for equipment conf	iguration.

Noun Name: Compressor, Air, Ballas	t Blowing
	860CFM 200PSI to 2440CFM 13PST
	Federal Stock Number: **
Equipment Identification Code: AC43	place proportionals (secondaria)
Technical Manual: **	The said that the said the sai
Manufacturer:	
В	Sasic Data
Ship Population: LPD, SSBN	Equip. Population/Ship: **
Equip. Population in Data Base: 54 Utilization Factors:	Data Assessment Period: 7/1/67 - 6/30/69
	9248
Total Number of: Failures (CMs): 6	Corrective Maintenance Events (CM):7
	Total CM Repair Man-Hours:86
Maintenance Factors:	Total CM Repair Man-nours:
MTBCM _f :1541 90% Confidence Interval Upper Limit:3539 Lower Limit:781	MTBCM: 1321 90% Confidence Interval Upper Limit: 2815 Lower Limit: 703
Maintai	inability Indices
Corrective Maintenance — (Forced Shutdown Failure Events Only)	Corrective Maintenance — (All Events)
MTTR _f : 7.3	MTTR _{cm} : 8.2
$MCMM_{\mathbf{f}}$: 7.3	MCMM _{cm} : 9.5
Max. Observed MH: 33	Max. Observed MH: 33
Wariance: 122	Wariance: 113
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 061130002, 06113001 sheets	2 **(2) See individual CID data

Noun Name: Compressor, Air LP	Air Reipg
	LP 20CFM 100 PSI to 200 CFM 100 PSI
CID/APL Number(s): 061390085 *(1)	
Technical Manual: **	
Manufacturer: **	
AE/AFS/AO/ATF/CVA/DD/I Ship Population:DLG/LPD/LPH/LSD/LST	Basic Data DDG/DE/DEG/ Equip. Population/Ship: **
VV	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:	662520
Total Equip. Operating Time (hours):	
그리아 그 그는 내가 들어가는 그 아무를 하는 것이 하는데	Corrective Maintenance Events (CM): 1600
Total CM _f Repair Man-Hours: 14649	Total CM Repair Man-Hours: 39544
Maintenance Factors:O.	67
Mean Time Between Failure (Forced Shutdown Corrective Maintenan	The state of the s
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenan MTBCM _f : 2981 90% Confidence Interval Upper Limit: 3201 Lower Limit: 2780	Mean Time Between Corrective Maintenance (ce) MTBCM: 1039 90% Confidence Interval Upper Limit: 1084
(Forced Shutdown Corrective Maintenant MTBCM _f : 2981 90% Confidence Interval Upper Limit: 3201 Lower Limit: 2780	Mean Time Between Corrective Maintenance (ce) MTBCM: 1039 90% Confidence Interval Upper Limit: 1084 Lower Limit: 998
(Forced Shutdown Corrective Maintenan MTBCM _f :981 90% Confidence Interval	Mean Time Between Corrective Maintenance (ce) MTBCM: 1039 90% Confidence Interval
(Forced Shutdown Corrective Maintenan MTBCM _f :981 90% Confidence Interval	Mean Time Between Corrective Maintenance (ce) MTBCM: 1039 90% Confidence Interval Upper Limit: 1084 Lower Limit: 998 aintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.5
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM: 1039 90% Confidence Interval Upper Limit: 1084 Lower Limit: 998 aintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 16.5 MCMM _{cm} : 5.0
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM: 1039 90% Confidence Interval
(Forced Shutdown Corrective Maintenant MTBCM _f :90% Confidence Interval	Mean Time Between Corrective Maintenance (ce) MTBCM:
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM: 1039 90% Confidence Interval
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM: 1039 90% Confidence Interval

Equipment Identification

Noun Name: Compressor IP Air Rcipg

General Description: Compressor Air IP 1500	CFM 300 PSI to 11.4CFM 600PSI
CID/APL Number(s): 061430051 *(1)	Federal Stock Number: **
Equipment Identification Code: ACO1	ACR C said remaindation in several
Technical Manual: **	Verneral Mercel (1997)
Manufacturer:**	25 gentari orak
Bas	ic Data
Ship Population: ATF, CVA, DDG, LST, MSC, MSC	
Equip. Population in Data Base: 68	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	2019 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Total Equip. Operating Time (hours):	34035
Total Number of: Failures (CM _f): 200	Corrective Maintenance Events (CM): 425
Total CMe Repair Man-Hours: 3032	Total CM Repair Man-Hours: 6564
Maintenance Factors: 0.67	and the second second
Reliabil	ity Indices
	,
Mean Time Between Failure	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance)	
MTBCM _f :	MTBCM:
90% Confidence Interval	90% Confidence Interval
Upper Limit: 192	Upper Limit: 87
Lower Limit:151	Lower Limit: 74
Maintains	bility Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	10. 2
MTTR _f : 10.1 MCMM _f : 3.0	MTTR _{cm} :10.3
	MCMM _{cm} : 4.0
	Max. Observed MIII:
MCMM _f : 15.1	MCMM _{cm} : 15.4
Variance: 1486	Variance: 1542
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 061900065, 061900157.	061900159, 061900160, 061900208
**(2) See individual CID data shee	ets

CID/APL Number(s): 061430147 *(1)	4.0CFH 3000PSI to 13.5 CFH 4500 PSI
	Federal Stock Number: **
	_ Federal Stock Number
Equipment Identification Code: AB18	
Technical Manual: **	
Manufacturer: **	
하는 나이를 하는데 얼마나 없는 항에 들어서 되었다. 그 그 아이를 보고 있는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하	asic Data
AE/AFS/AO/CVA/DD/DDG/DE/I	
Ship Population: DLG/LPD/SSBN/SSN	Equip. Population/Ship:
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors.	2/187/16
Total Equip. Operating Time (hours):	Corrective Maintenance Events (CM): 2097
Total CM _f Repair Man-Hours: 12249	Total CM Repair Man-Hours:32298
Maintenance Factors: 0.67	
90% Confidence Interval Upper Limit: 276	90% Confidence Interval Upper Limit: 123
Lower Limit: 248	Lower Limit: 114
Maintai	nability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	Figure sower world.
MTTR _f : 8.6	MTTR _{cm} : 10.3 MCMM: 3.8
MCMMf.	Cm 972
	Max. Observed Mil.
MCMM _f :12.9	MCMM _{cm} : 15,4 Variance: 2257
Variance:	variance:
Ladiented Distribution (a). Description	Normal Log Normal
Indicated Distribution(s): Exponential	
	5,061900182,061900183,061900210,

	THE RESERVE OF THE PERSON OF T	Compression	
General Description:Distilla			
CID/APL Number(s):080020022			**
Equipment Identification Code:	AE03000/TKC	04000	ygestrajekt transpint
Technical Manual:			Jannaly, lesantes I
Manufacturer:	**		The Control of the Co
	n:	- D-4-	
		c Data	
Ship Population: ATF, SSBN	, SSN	Equip. Population/Ship	o: <u>**</u>
Equip. Population in Data Base:	37	Data Assessment Perio	d: 7/1/67 - 6/30/69
Utilization Factors:			accepted nagration
Total Equip. Operating Time (hours):		Turk (hopeus I	shitteeft qualit laut
Total Number of: Failures (CMf):	90	Corrective Maintenance Eve	nts (CM): 400
Total CM _f Repair Man-Hours:	1706	Total CM Repair Man-Hour	s: 8365
Maintenance Factors:	0 (0		estatorio estatorio de la composición del composición de la compos
Mean Time Between Failure (Forced Shutdown Corrective Ma		Mean Time Between Correc	tive Maintenance
(Forced Shutdown Corrective Mathematics) MTBCM _f : 166 90% Confidence Interval		Mean Time Between Correct MTBCM: 37 90% Confidence Interv	val
(Forced Shutdown Corrective Ma MTBCM _f : 166 90% Confidence Interval Upper Limit: 200	aintenance)	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit:	val 41
(Forced Shutdown Corrective Mathematical MTBCM _f : 166 90% Confidence Interval	aintenance)	Mean Time Between Correct MTBCM: 37 90% Confidence Interv	val 41
(Forced Shutdown Corrective Mathematical MTBCM _f : 166 90% Confidence Interval Upper Limit: 200	aintenance)	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit:	val 41
(Forced Shutdown Corrective Mathematical Mat	aintenance) Maintaina	Mean Time Between Correct MTBCM:37 90% Confidence Interv Upper Limit: Lower Limit: bility Indices	7 al 41 35
(Forced Shutdown Corrective Mathematics 166 90% Confidence Interval 200 Lower Limit: 140 140	aintenance) Maintaina	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit:	7al 41 35 All Events)
(Forced Shutdown Corrective Ma MTBCM _f : 166 90% Confidence Interval Upper Limit: 200 Lower Limit: 140 Corrective Maintenance — (Forced Shufailure Events Only)	aintenance) Maintaina	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit: bility Indices Corrective Maintenance — ()	7 al 41 35
(Forced Shutdown Corrective Ma MTBCM _f : 166 90% Confidence Interval Upper Limit: 200 Lower Limit: 140 Corrective Maintenance — (Forced Shufailure Events Only) MTTR _f : 12.6	aintenance) Maintaina	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: MTTRcm: 13.9	7al 41 35 All Events)
(Forced Shutdown Corrective Mathematical MTBCMf: 166 90% Confidence Interval Upper Limit: 200 Lower Limit: 140 Corrective Maintenance — (Forced Shuffilure Events Only) MTTRf: 12.6 MCMMf: 3.0	aintenance) Maintaina	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Maintenance — (AMTTR _{cm} : 13.9 MCMM _{cm} : 4.0	All Events)
(Forced Shutdown Corrective Mathematical MTBCM $_{\rm f}$: $\frac{166}{90\%}$ Confidence Interval Upper Limit: $\frac{200}{140}$ Lower Limit: $\frac{140}{140}$ Corrective Maintenance — (Forced Shutfailure Events Only) MTTR $_{\rm f}$: $\frac{12.6}{3.0}$ MCMM $_{\rm f}$: $\frac{12.6}{3.0}$ Max. Observed MH: $\frac{430}{100}$	aintenance) Maintaina	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (MTTR _{cm} : 13.9 MCMM _{cm} : 4.0 Max. Observed MH:	7al 41 35 All Events)
(Forced Shutdown Corrective Mathematical MTBCMf: 166 90% Confidence Interval Upper Limit: 200 Lower Limit: 140 Corrective Maintenance — (Forced Shuffillure Events Only) MTTRf: 12.6 MCMMf: 3.0 Max. Observed MH: 430 MCMMf: 19.0 hhah	aintenance) Maintaina	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: 1 Lower Limit: 1 MTTR _{cm} : 13.9 MCMM _{cm} : 4.0 Max. Observed MH: 20.9	All Events)
(Forced Shutdown Corrective Mathematical MTBCMf: 166 90% Confidence Interval Upper Limit: 200 Lower Limit: 140 Corrective Maintenance — (Forced Shufailure Events Only) MTTRf: 12.6 MCMMf: 3.0 Max. Observed MH: 430	aintenance) Maintaina	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (MTTR _{cm} : 13.9 MCMM _{cm} : 4.0 Max. Observed MH:	All Events)
(Forced Shutdown Corrective Mathematical MTBCMf: 166 90% Confidence Interval Upper Limit: 200 Lower Limit: 140 Corrective Maintenance — (Forced Shuffillure Events Only) MTTRf: 12.6 MCMMf: 3.0 Max. Observed MH: 430 MCMMf: 19.0 hhah	Maintaina utdown	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: 1 Lower Limit: 1 MTTR _{cm} : 13.9 MCMM _{cm} : 4.0 Max. Observed MH: 20.9	All Events)
(Forced Shutdown Corrective Mathematics 166 90% Confidence Interval 200 140 140 Corrective Maintenance - (Forced Shutspanning Events Only) 12.6 MCMM _f : 3.0 430 MCMM _f : 19.0 430 MCMM _f : 19.0 4424 Indicated Distribution (s): Exponential Exp	Maintaina utdown	Mean Time Between Correct MTBCM: 37 90% Confidence Interv Upper Limit: Lower Limit: bility Indices Corrective Maintenance — (MTTR _{cm} : 13.9 MCMM _{cm} : 4.0 Max. Observed MH: MCMM _{cm} : 20.9 Variance: 3379 Normal	All Events)

General Description: Distillatio	on Unit 20000 GPD to 50000 GPD
CID/APL Number(s): 080020027*	(1) Federal Stock Number: **
Equipment Identification Code:AE	E02000/TK03000
Technical Manual:**	*
Manufacturer:**	×
	Basic Data
Ship Population: AS. LPD. LPH. LS	Equip. Population/Ship: **
	Data Assessment Period: 7/1/67 - 6/30/
-1	**
Total Equip. Operating Time (hours): 2	278833
Total Number of: Failures (CM _f): 6	Corrective Maintenance Events (CM):330
Total CM _f Repair Man-Hours: 119	
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Mainter MTBCMs: 4289	
(Forced Shutdown Corrective Mainter MTBCM _f : 4289 90% Confidence Interval Upper Limit: 5328	Mean Time Between Corrective Maintenance enance) MTBCM: 844 90% Confidence Interval Upper Limit: 927
(Forced Shutdown Corrective Mainter MTBCM _f : 4289 90% Confidence Interval	Mean Time Between Corrective Maintenance enance) MTBCM: 844 90% Confidence Interval
(Forced Shutdown Corrective Mainter MTBCM _f : 4289 90% Confidence Interval Upper Limit: 5328 Lower Limit: 3489	Mean Time Between Corrective Maintenance Penance) MTBCM: 844 90% Confidence Interval Upper Limit: 927 Lower Limit: 771 Maintainability Indices
(Forced Shutdown Corrective Mainter MTBCMf: 4289 90% Confidence Interval Upper Limit: 5328 Lower Limit: 3489 Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance Penance) MTBCM: 844 90% Confidence Interval Upper Limit: 927 Lower Limit: 771 Maintainability Indices
(Forced Shutdown Corrective Mainter MTBCMf: 4289 90% Confidence Interval Upper Limit: 5328 Lower Limit: 3489 Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 844 90% Confidence Interval Upper Limit: 927 Lower Limit: 771 Maintainability Indices own Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainter MTBCMf: 4289 90% Confidence Interval Upper Limit: 5328 Lower Limit: 3489 Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 844 90% Confidence Interval Upper Limit: 927 Lower Limit: 771 Maintainability Indices wm Corrective Maintenance — (All Events) MTTR _{cm} : 15.4
(Forced Shutdown Corrective Mainter MTBCM _f : 4289 90% Confidence Interval Upper Limit: 5328 Lower Limit: 3489 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.3 MCMM _f : 9.0 Max. Observed MH: 158	Mean Time Between Corrective Maintenance MTBCM: 844 90% Confidence Interval Upper Limit: 927 Lower Limit: 771 Maintainability Indices wm Corrective Maintenance — (All Events) MTTR _{cm} : 15.4
(Forced Shutdown Corrective Mainter MTBCM _f : 4289 90% Confidence Interval Upper Limit: 5328 Lower Limit: 3489 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.3 MCMM _f : 9.0 Max. Observed MH: 158 MCMM _f : 18.4	Mean Time Between Corrective Maintenance MTBCM: 844 90% Confidence Interval Upper Limit: 927 Lower Limit: 771 Maintainability Indices MTTR _{cm} : 15.4 MCMM _{cm} : 9.0 Max. Observed MH: 264 MCMM _{cm} : 23.0
(Forced Shutdown Corrective Mainter MTBCM _f : 4289 90% Confidence Interval Upper Limit: 5328 Lower Limit: 3489 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 12.3 MCMM _f : 9.0 Max. Observed MH: 158	Mean Time Between Corrective Maintenance MTBCM: 844 90% Confidence Interval Upper Limit: 927 Lower Limit: 771 Maintainability Indices wn Corrective Maintenance — (All Events) MTTR _{cm} : 15.4 MCMM _{cm} : 9.0 Max. Observed MH: 264
(Forced Shutdown Corrective Mainter MTBCM _f :4289 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 844 90% Confidence Interval Upper Limit: 927 Lower Limit: 771 Maintainability Indices wn Corrective Maintenance — (All Events) MTTR _{cm} : 15.4 MCMM _{cm} : 9.0 Max. Observed MH: 264 MCMM _{cm} : 23.0 Variance: 1424

Noun Name: <u>Distilling</u> General Description: <u>Distill</u>	ation Unit	4000 GPD to 12000 GPD
CID/APL Number(s): 0800300		
Equipment Identification Code: _	AROOOOO MILLO	
Fechnical Manual:	**	COST COST COST COST SERVICES REPORTED AND COST COST COST COST COST COST COST COST
Manufacturer:	**	W/ Satisfié No
Manufacturer.		28 :000
	Ba	sic Data
		G, DLC Equip. Population/Ship: **
Equip. Population in Data Base: _	107	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:	ALIES A CHERT HER WILLIAM OF	
Total Equip. Operating Time (ho	urs):	925918
Total Number of: Failures (CM	I _f): 299	_ Corrective Maintenance Events (CM): 2121
Total CM _f Repair Man-Hours:	4178	Total CM Repair Man-Hours:55797
Maintenance Factors:	0.67	
(Forced Shutdown Corrective		Mean Time Between Corrective Maintenance MTBCM: 436
(Forced Shutdown Corrective	e Maintenance)	Relieving fadieur
MTBCM _f : 3096 90% Confidence Interval Upper Limit: 3415	e Maintenance)	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 3415	e Maintenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 3415 Lower Limit: 2814	e Maintenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421 mability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 3415 Lower Limit: 2814 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 9.3	e Maintenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421 mability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 3415 Lower Limit: 2814 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 9.3 MCMM _f : 6.0	e Maintenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421 nability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 17.6 MCMM _{cm} : 9.0
(Forced Shutdown Corrective MTBCM _f :3096 90% Confidence Interval	e Maintenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 17.6 MCMM _{cm} : 9.0 Max. Observed MH: 1096
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 3415 Lower Limit: 2814 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 9.3 MCMM _f : 6.0 Max. Observed MH:	e Maintenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 17.6 MCMM _{cm} : 9.0 Max. Observed MH: 1096 MCMM _{cm} : 26.4
(Forced Shutdown Corrective MTBCM _f :3096 90% Confidence Interval	e Maintenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 17.6 MCMM _{cm} : 9.0 Max. Observed MH: 1096
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 3415 Lower Limit: 2814 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 9.3 MCMM _f : 6.0 Max. Observed MH:	e Maintenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 17.6 MCMM _{cm} : 9.0 Max. Observed MH: 1096 MCMM _{cm} : 26.4
(Forced Shutdown Corrective MTBCM _f : 3096 90% Confidence Interval Upper Limit: 3415 Lower Limit: 2814 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 9.3 MCMM _f : 6.0 Max. Observed MH: 4.0 Variance: 657 Indicated Distribution(s): Experiments	Maintain Shutdown	MTBCM: 436 90% Confidence Interval Upper Limit: 453 Lower Limit: 421 mability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 17.6 MCMM _{cm} : 9.0 Max. Observed MH: 1096 MCMM _{cm} : 26.4 Variance: 2940

General Description: Distilla CID/APL Number(s): 08011000	2* (1)	Federal Stock Number:	**
Equipment Identification Code:	AE01000/	TK01000	1 Francis V Farmer
Technical Manual:			TA .
Manufacturer:	**		
		cost visit	
	В	asic Data	
Ship Population: DE, SSBN, S			
Equip. Population in Data Base:	**	The second secon	7/1/67 - 6/30/6
Total Equip. Operating Time (hou	rs):	226300	
Total Number of: Failures (CM	(): <u>137</u>	Corrective Maintenance Event	ts (CM):981
Total CM _f Repair Man-Hours:		Total CM Repair Man-Hours:	15985
		67	
Mean Time Between Failure	Relial	bility Indices Mean Time Between Correction	ve Maintenance
Mean Time Between Failure	Relial	bility Indices	ve Maintenance
Mean Time Between Failure (Forced Shutdown Corrective	Relial Maintenanœ)	bility Indices Mean Time Between Correction	
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651	Relial Maintenanœ)	bility Indices Mean Time Between Correction	<u>an</u> or and the con-
MTBCM _f : 1651 90% Confidence Interval	Relial	Mean Time Between Correction MTBCM: 230 90% Confidence Interval	
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651	Relial	Mean Time Between Correction MTBCM: 230	243
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651 90% Confidence Interval Upper Limit: 1912	Relial	Mean Time Between Correction MTBCM: 230 90% Confidence Interval Upper Limit:	243
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651 90% Confidence Interval Upper Limit: 1912	Relial Maintenance) Maintai	Mean Time Between Correction MTBCM: 230 90% Confidence Interval Upper Limit: Lower Limit: nability Indices	243 219
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651 90% Confidence Interval Upper Limit: 1912 Lower Limit: 1433 Corrective Maintenance — (Forced Failure Events Only)	Relial Maintenanœ) Maintai	Mean Time Between Correction MTBCM: 230 90% Confidence Interval Upper Limit: Lower Limit: nability Indices Corrective Maintenance — (Al	243 219
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651 90% Confidence Interval Upper Limit: 1912 Lower Limit: 1433 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.1	Relial Maintenanœ) Maintai	Mean Time Between Correction MTBCM: 230 90% Confidence Interval Upper Limit: Lower Limit: nability Indices Corrective Maintenance — (All MTTR _{cm} : 10.9	243 219
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651 90% Confidence Interval Upper Limit: 1912 Lower Limit: 1433 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.1 MCMM _f : 4.0	Relial Maintenance) Maintai Shutdown	Mean Time Between Correction MTBCM: 230 90% Confidence Interval Upper Limit: Lower Limit: nability Indices Corrective Maintenance — (All MTTR _{cm} : 10.9 MCMM _{cm} : 4.0	243 219
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651 90% Confidence Interval Upper Limit: 1912 Lower Limit: 1433 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.1 MCMM _f : 4.0 Max. Observed MH:	Relial Maintenanœ) Maintai	Mean Time Between Correction MTBCM: 230 90% Confidence Interval Upper Limit: Lower Limit: nability Indices Corrective Maintenance — (All MTTR _{cm} : 10.9 MCMM _{cm} : 4.0 Max. Observed MH:	243 219
Mean Time Between Failure (Forced Shutdown Corrective MTBCM _f : 1651 90% Confidence Interval Upper Limit: 1912 Lower Limit: 1433 Corrective Maintenance — (Forced Failure Events Only) MTTR _f : 10.1 MCMM _f : 4.0	Relial Maintenance) Maintai Shutdown	Mean Time Between Correction MTBCM: 230 90% Confidence Interval Upper Limit: Lower Limit: nability Indices Corrective Maintenance — (All MTTR _{cm} : 10.9 MCMM _{cm} : 4.0	243 219

Noun Name: Generator, DC, Pr	
General Description: Generator,	
	(1) Federal Stock Number: **
Equipment Identification Code:1B	00000
Technical Manual:**	SAN CANNEY CONTROL OF THE PROPERTY AND PROPERTY AND PROPERTY OF THE PROPERTY AND PR
Manufacturer: **	s
	Basic Data
Ship Population: ATF	Equip. Population/Ship:**
Equip Population in Data Base:	36 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:**	
Total Equip Operating Time (hours):	510471
Total Number of: Failures (CM _f):	4 Corrective Maintenance Events (CM): 27
Total CM. Panair Man Hours: 131	Total CM Repair Man-Hours: 1009
Maintenance Factors:	0.67
	Constitution of the consti
	Reliability Indices
	ischability indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maint	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Mainte MTBCM _f : 127617 90% Confidence Interval	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 127617 90% Confidence Interval Upper Limit: 373616	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval Upper Limit: 26786
(Forced Shutdown Corrective Mainte MTBCM _f : 127617 90% Confidence Interval	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval
(Forced Shutdown Corrective Mainte MTBCM _f : 127617 90% Confidence Interval Upper Limit: 373616	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval Upper Limit: 26786
(Forced Shutdown Corrective Mainte MTBCM _f : 127617 90% Confidence Interval Upper Limit: 373616	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval Upper Limit: 26786 Lower Limit: 13709 Maintainability Indices
(Forced Shutdown Corrective Maintenance — (Forced Shutdown Corrective Maintenance — (Forced Shutdown Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval Upper Limit: 26786 Lower Limit: 13709 Maintainability Indices own Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Mainted MTBCMf: 127617 90% Confidence Interval Upper Limit: 373616 Lower Limit: 55768 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 21.8	Mean Time Between Corrective Maintenance MTBCM: 18906 90% Confidence Interval Upper Limit: 26786 Lower Limit: 13709 Maintainability Indices own Corrective Maintenance — (All Events) MTTR _{cm} : 24.9
(Forced Shutdown Corrective Mainted MTBCM _f : 127617 90% Confidence Interval Upper Limit: 373616 Lower Limit: 55768 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 21.8 MCMM _f : 11.5	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval Upper Limit: 26786 Lower Limit: 13709 Maintainability Indices own Corrective Maintenance — (All Events) MTTR _{cm} : 24.9 MCMM _{cm} : 12.0
(Forced Shutdown Corrective Mainted MTBCMf: 127617 90% Confidence Interval Upper Limit: 373616 Lower Limit: 55768 Corrective Maintenance — (Forced Shutdom Failure Events Only) MTTRf: 21.8 MCMMf: 11.5 Max. Observed MH: 105	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval Upper Limit: 26786 Lower Limit: 13709 Maintainability Indices own Corrective Maintenance — (All Events) MTTR _{cm} : 24.9 MCMM _{cm} : 12.0 Max. Observed MH: 128
(Forced Shutdown Corrective Mainted MTBCM _f : 127617 90% Confidence Interval Upper Limit: 373616 Lower Limit: 55768 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 21.8 MCMM _f : 11.5	Mean Time Between Corrective Maintenance MTBCM: 18906 90% Confidence Interval Upper Limit: 26786 Lower Limit: 13709 Maintainability Indices MTTR _{cm} : 24.9 MCMM _{cm} : 12.0 Max. Observed MH: 128 MCMM _{cm} : 37.4
(Forced Shutdown Corrective Mainted MTBCMf: 127617 90% Confidence Interval Upper Limit: 373616 Lower Limit: 55768 Corrective Maintenance — (Forced Shutdom Failure Events Only) MTTRf: 21.8 MCMMf: 11.5 Max. Observed MH: 105	Mean Time Between Corrective Maintenance enance) MTBCM: 18906 90% Confidence Interval Upper Limit: 26786 Lower Limit: 13709 Maintainability Indices own Corrective Maintenance — (All Events) MTTR _{cm} : 24.9 MCMM _{cm} : 12.0
(Forced Shutdown Corrective Mainted MTBCM _f : 127617 90% Confidence Interval Upper Limit: 373616 Lower Limit: 55768 Corrective Maintenance — (Forced Shutdom Failure Events Only) MTTR _f : 21.8 MCMM _f : 11.5 Max. Observed MH: 105 MCMM _f : 32.6	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainted MTBCMf: 127617 90% Confidence Interval Upper Limit: 373616 Lower Limit: 55768 Corrective Maintenance — (Forced Shutdom Failure Events Only) MTTRf: 21.8 MCMMf: 11.5 Max. Observed MH: 105 MCMMf: 32.6 Variance: 2360 Indicated Distribution (s): Exponential	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainted MTBCMf: 127617 90% Confidence Interval Upper Limit: 373616 Lower Limit: 55768 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTRf: 21.8 MCMMf: 11.5 Max. Observed MH: 105 MCMMf: 32.6 Variance: 2360 Indicated Distribution (s): Exponential *REMARKS: *(1) 165500002; *	Mean Time Between Corrective Maintenance MTBCM:

General Description: Motor	
CID/APL Number(s): 171010250 *(1)	Federal Stock Number: **
	O Series Caries
	Statinets Issues
Manufacturer: **	and and a second and a second as a second
В	asic Data
Ship Population:ATF	Equip. Population/Ship:**
Equip. Population in Data Base: 44	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: ** Total Equip. Operating Time (hours):	1710270
Total Number of: Failures (CM _f): 3	Corrective Maintenance Events (CM):30
Total CM _f Repair Man-Hours: 523	Total CM Repair Man-Hours:980
Maintenance Factors: 0.67	Tryling agents
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
	Mean Time Between Corrective Maintenance MTBCM: 57009
(Forced Shutdown Corrective Maintenance) MTBCM _f : 570090 90% Confidence Interval	MTBCM: 57009 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 570090 90% Confidence Interval Upper Limit: 2091561	MTBCM: 57009 90% Confidence Interval Upper Limit: 79204
(Forced Shutdown Corrective Maintenance) MTBCM _f : 570090 90% Confidence Interval	MTBCM: 57009 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :570090 90% Confidence Interval Upper Limit:2091561 Lower Limit:220576	MTBCM: 57009 90% Confidence Interval Upper Limit: 79204
(Forced Shutdown Corrective Maintenance) MTBCM _f :570090 90% Confidence Interval Upper Limit:2091561 Lower Limit:220576	MTBCM:57009 90% Confidence Interval Upper Limit:79204 Lower Limit:42030
(Forced Shutdown Corrective Maintenance) MTBCM _f :570090 90% Confidence Interval	MTBCM:57009 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :570090 90% Confidence Interval	MTBCM: 57009 90% Confidence Interval Upper Limit: 79204 Lower Limit: 42030 inability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :570090 90% Confidence Interval	MTBCM:57009 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :570090 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :570090 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :570090	MTBCM:

Noun Name: <u>Motor AC & DC</u> M/G Set	
General Description: Motor AC-DC 400	
CID/APL Number(s): 174180002 *(1)	Federal Stock Number:**
Equipment Identification Code: QM01000)
Technical Manual: **	
Manufacturer: **	
I	Basic Data
Ship Population:DE,DDG,DLG,LST	Equip. Population/Ship: **
Equip. Population in Data Base: 71	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	The second secon
Total Equip. Operating Time (hours):17	² 9698
	Corrective Maintenance Events (CM):13
Total CMe Repair Man-Hours: 120	Total CM Repair Man-Hours:306
Maintenance Factors: 0.67	
MTBCM _f : 29949	MTBCM: 13822
MTBCM _f : 29949	MTBCM: <u>13822</u>
90% Confidence Interval	90% Confidence Interval
Upper Limit: 68771	Upper Limit: 23370
Lower Limit: 15174	Lower Limit: 8694
Mainta	inability Indices
Corrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
MTTR _f : 13.3	MTTR _{cm} :15.7
MCMM _f : 16.0	MCMM _{cm} : 12.0
Max. Observed MH: 48	Max. Observed MH: 90
MCMM _f :	MCMM _{cm} : 23.5
Variance:240	Variance:667
Indicated Distribution(s): Exponential	Normal Log Normal
*REMARKS: *(1) 174180064. 1741800	942, 174810818: **See individual CID
data sheets. Note: These indices	were developed from data analyzed for
ARINC Research Report 933-02-3-1	153. See Appendix A for equipment con-
figuration.	2_22

CIDIAL Fulliper(8): TLADAO204 (T)	Federal Stock Number: **
Equipment Identification Code: ZQ17000	1921V Act a Australia recept
Technical Manual: **	
Manufacturer: **	
	Basic Data
Ship Population: LSD, DD, DDG, DLG, AO	Equip. Population/Ship:**
	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: **	
Total Equip. Operating Time (hours):96	57437
Total Number of: Failures (CM _f): 19	Corrective Maintenance Events (CM):35
	Total CM Repair Man-Hours:646
Maintenance Factors:0.67	7
Maintenance Factors:	
Rel	liability Indices
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	
(Forced Shutdown Corrective Maintenance)	- Dorne Estatema i in terrespondente de la company
(Forced Shutdown Corrective Maintenance) MTBCM _f : 50917	MTBCM: 27641
(Forced Shutdown Corrective Maintenance) MTBCM _f : 50917 90% Confidence Interval	MTBCM: 27641 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 50917 96% Confidence Interval Upper Limit: 77759	MTBCM: 27641 90% Confidence Interval Upper Limit: 37398
(Forced Shutdown Corrective Maintenance) MTBCM _f : 50917 90% Confidence Interval	MTBCM: 27641 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 27641 90% Confidence Interval Upper Limit: 37398
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 27641 90% Confidence Interval Upper Limit: 37398 Lower Limit: 20848
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 27641 90% Confidence Interval Upper Limit: 37398 Lower Limit: 20848
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:90% Confidence Interval Upper Limit:37398 Lower Limit:20848 tainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 27641 90% Confidence Interval Upper Limit: 37398 Lower Limit: 20848 tainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.3
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 27641 90% Confidence Interval Upper Limit: 37398 Lower Limit: 20848 Itainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.3 MCMM _{cm} : 9.0 Max. Observed MH: 120
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 27641 90% Confidence Interval Upper Limit: 37398 Lower Limit: 20848 Itainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 12.3 MCMM _{cm} : 9.0 Max. Observed MH: 120
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 27641 90% Confidence Interval

oun Name: 400 Hertz M/G Set	the state of the s
eneral Description: Motor Generator Se	
ID/APL Number(s): 181040029 *(1 Federal Stock Number: **
quipment Identification Code: QD00 QD	000
echnical Manual:	TERRITOR LIGHTON
anufacturer:**	
**See individual CID data shee	ets.
B	Basic Data
AE, AS, CVA, DD, DDG, DE, DE	EG, **
nip Population: DLG, LPD, LST, SSBN, SSN	Equip. Population/Ship:
	Data Assessment Period: 7/1/67 - 6/30/69
tilization Factors: **	
otal Equip. Operating Time (hours):	3400931
otal Number of: Failures (CM _f): 392	Corrective Maintenance Events (CM): 1237
	Total CM Repair Man-Hours:26671
aintenance Factors: 0.67	
MTBCM _f : 8675	MTBCM: 2749 90% Confidence Interval
90% Confidence Interval	Upper Limit: 2883
Upper Limit: 9447	Lower Limit: 2623
Lower Limit:	Lower Limit.
Mainta	inability Indices
orrective Maintenance — (Forced Shutdown	Corrective Maintenance — (All Events)
Failure Events Only)	
TTR _f : 18.7	MTTR _{cm} : 14.4
ICMM _f : 6.9	MCMM _{cm} :
Max. Observed MH: 941	Max. Observed MH: 941
ICMM _f :28.1	MCMM _{cm} :21.6
Variance:7126	Variance: 3953
indicated Distribution (s): Exponential	Normal Log Normal
*REMARKS: *(1)181040034,181040038 18112046,1811120050,181120067,18	3,181040043,181040049,181040050,181070061, 31240026,181240028,181240029,181240030,
	3180080,181800086,182800011,182800018,
182800053,182860003,182860009,18	32860011.182860014.182930002.
105000022,105000002,105000003,10	

General Description: <u>AC-DC 0-15 KW</u>	
CID/APL Number(s): 181800056 *(1)	Federal Stock Number:**
Equipment Identification Code: QMO	00000
	978 San Fish
Manufacturer: **	Control of the contro
	Basic Data
Ship Population: DLG, LSD, DDG, LPD, D	Equip. Population/Ship: **
Equip. Population in Data Base: 70	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: **	
Total Equip. Operating Time (hours):	1936105
Total Number of: Failures (CM _f): 2	Corrective Maintenance Events (CM): 15
Total CM _f Repair Man-Hours:4	Total CM Repair Man-Hours:58
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenar MTBCM _f : 968052	Mean Time Between Corrective Maintenance nce) MTBCM: 129073
(Forced Shutdown Corrective Maintenar MTBCM _f : 968052 90% Confidence Interval Upper Limit: 5448445	Mean Time Between Corrective Maintenance MTBCM: 129073 90% Confidence Interval Upper Limit: 209400
(Forced Shutdown Corrective Maintenary MTBCM _f : 968052 90% Confidence Interval Upper Limit: 5448445 Lower Limit: 307523	Mean Time Between Corrective Maintenance nce) MTBCM: 129073 90% Confidence Interval
(Forced Shutdown Corrective Maintenary MTBCM _f : 968052 90% Confidence Interval Upper Limit: 5448445 Lower Limit: 307523	Mean Time Between Corrective Maintenance MTBCM: 129073 90% Confidence Interval Upper Limit: 209400 Lower Limit: 83822 Maintainability Indices
(Forced Shutdown Corrective Maintenary MTBCMf: 968052 90% Confidence Interval Upper Limit: 5448445 Lower Limit: 307523 N Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 129073 90% Confidence Interval Upper Limit: 209400 Lower Limit: 83822 Maintainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenary MTBCMf: 968052 90% Confidence Interval Upper Limit: 5448445 Lower Limit: 307523 N Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 129073 90% Confidence Interval
(Forced Shutdown Corrective Maintenary MTBCM _f :968052 90% Confidence Interval Upper Limit:5448445 Lower Limit:307523 N Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :1.8 MCMM _f :1.8	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :968052 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 129073 90% Confidence Interval Upper Limit: 209400 Lower Limit: 83822 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.6 MCMM _{cm} : 1.0 Max. Observed MH: 31
(Forced Shutdown Corrective Maintenary MTBCM _f :968052 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenary MTBCM _f :968052 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 129073 90% Confidence Interval Upper Limit: 209400 Lower Limit: 83822 Maintainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 2.6 MCMM _{cm} : 1.0 Max. Observed MH: 31
(Forced Shutdown Corrective Maintenary MTBCM _f :968052 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenand MTBCMf:968052	Mean Time Between Corrective Maintenance MTBCM:

General Description: Refrigeration	System, Food Sto. Cap50 to 7.8 Ton
CID/APL Number(s): 32500077* (1	
Equipment Identification Code:	
V V	
Manufacturer:	
	Basic Data
Augusting Manu: 1,1767 - 6730769	
	DE/DLG/MSC Equip. Population/Ship: **
	92 Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	553.500
Total Equip. Operating Time (hours):	551780
Total Number of: Failures (CM _f):2	32 Corrective Maintenance Events (CM): 1054
Total CM _f Repair Man-Hours: 3232	Total CM Repair Man-Hours:16629
Maintenance Factors:	0.67
(Forced Shutdown Corrective Maintenan	Mean Time Between Corrective Maintenance nce) MTBCM: 523
MTBCM _f : 2378 90% Confidence Interval Upper Limit: 2659	Mean Time Between Corrective Maintenance nce) MTBCM:523 90% Confidence Interval Upper Limit:551
(Forced Shutdown Corrective Maintenant MTBCM _f : 2378 90% Confidence Interval	Mean Time Between Corrective Maintenance nce) MTBCM: 523 90% Confidence Interval
(Forced Shutdown Corrective Maintenant MTBCM _f : 2378 90% Confidence Interval Upper Limit: 2659 Lower Limit: 2133	Mean Time Between Corrective Maintenance mce) MTBCM:
(Forced Shutdown Corrective Maintenant MTBCM _f : 2378 90% Confidence Interval Upper Limit: 2659 Lower Limit: 2133	Mean Time Between Corrective Maintenance nce) MTBCM:523 90% Confidence Interval Upper Limit:551
(Forced Shutdown Corrective Maintenant MTBCM _f : 2378 90% Confidence Interval Upper Limit: 2659 Lower Limit: 2133	Mean Time Between Corrective Maintenance mce) MTBCM:
(Forced Shutdown Corrective Maintenant MTBCM _f : 2378 90% Confidence Interval Upper Limit: 2659 Lower Limit: 2133	Mean Time Between Corrective Maintenance mce) MTBCM:
(Forced Shutdown Corrective Maintenant MTBCM _f : 2378 90% Confidence Interval Upper Limit: 2659 Lower Limit: 2133 Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance mce) MTBCM:
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance mce) MTBCM:
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance mce) MTBCM:
(Forced Shutdown Corrective Maintenand MTBCMf:	Mean Time Between Corrective Maintenance mce) MTBCM:
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance mce) MTBCM:
(Forced Shutdown Corrective Maintenand MTBCMf:	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Maintenand MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

	00012 *[1]	Federal Stock Number: **
Equipment identification Co		
Technical Manual: **		
Manufacturer: **		
	D.	sic Data
Ship Population: AES/AO/I		ST Equip. Population/Ship: **
		Data Assessment Period: 7/1/67 - 6/30.
4.4		
Total Equip. Operating Time		
		Corrective Maintenance Events (CM): 1065
Total CM Repair Man-Hours		
Maintenance Factors:	0.67	_ Total Civi Repair Man-nours.
Agan Timo Batusan Failus		Mora Time Primary Committee Maintenance
(Forced Shutdown Corr MTBCM _f : 7385 90% Confidence Interva Upper Limit:	8196	Mean Time Between Corrective Maintenance MTBCM:1837 90% Confidence Interval
(Forced Shutdown Corr MTBCM _f : 7385 90% Confidence Interva	8196 6671	MTBCM:1837 90% Confidence Interval Upper Limit:1934 Lower Limit:1747
(Forced Shutdown Corr MTBCM _f : 7385 90% Confidence Interva Upper Limit: Lower Limit:	1 8196 6671 Maintain	MTBCM:
(Forced Shutdown Corr MTBCM _f : 7385 90% Confidence Interva Upper Limit: Lower Limit:	Maintain	MTBCM:1837 90% Confidence Interval Upper Limit:1934 Lower Limit:1747
(Forced Shutdown Corr MTBCM _f : 7385 90% Confidence Interva Upper Limit: Lower Limit: Corrective Maintenance — (Forestive Events Only) MTTR _f :11.1	Maintain	MTBCM:
(Forced Shutdown Corrective Maintenance — (Forcective Maintenance — (F	Maintain	MTBCM:
(Forced Shutdown Corrective Maintenance — (Forcetive Maintenance — (Forcetive Events Only) MTTR _f :	Maintain	MTBCM:
(Forced Shutdown Corrective Maintenance — (Forcetive Events Only) MTTR _f :	Maintain	MTBCM:
MTBCM _f : 7385 90% Confidence Interva Upper Limit: Lower Limit: Corrective Maintenance — (Fe Failure Events Only) MTTR _f : 11.1 MCMM _f : 6.0 Max. Observed MH: MCMM _f : 16.6 Variance: 757	Maintain	MTBCM:

		ing Syste	em. R-12 to Chilled Water	Ministeral Williams
General Description:	Refrigerat	cion Plant	, Air Cond. Cap. 53 to 168	8 Tons
CID/APL Number(s):	:_325000193*	(1)	Federal Stock Number: **	Hard a man.
Equipment Identifica	ation Code:	AAC	03000	Lauddic teburine
echnical Manual:	**			tempose
Manufacturer:	**			
		951-1095	sic Data	
Ship Population: Di	E/DLG/LPH/SS	N	Equip. Population/Ship:	**
Equip. Population in Itilization Factors:	VV	66	Data Assessment Period: 7/1/	67 - 6/30/69
otal Equip. Operati	ing Time (hours):		734130	To success to help
Total Number of:	Failures (CM _f):_	115	Corrective Maintenance Events (CM)	:586
			Total CM Repair Man-Hours:	
Maintenance Factors			_ Total On Repair Mail-Hours	
			MTBCM: 1252	
90% Confidence	e Interval nit: 7495	Shuta are regul # russd	MTBCM: 1252 90% Confidence Interval Upper Limit: 1343 Lower Limit: 1170	
90% Confidence Upper Lim	e Interval nit: 7495	engli (* 1201) 	90% Confidence Interval Upper Limit:1343	
90% Confidence Upper Lim Lower Lim	e Interval nit: 7495 nit: 5468	Maintain	90% Confidence Interval Upper Limit:1343 Lower Limit:1170	Entopili Entopili Bannelli septembe
90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On	e Interval hit: 7495 hit: 5468	Maintain	90% Confidence Interval Upper Limit: 1343 Lower Limit: 1170 ability Indices Corrective Maintenance — (All Event	Entopili Entopili Bannelli septembe
90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On	e Interval nit: 7495 nit: 5468 nice — (Forced Shu	Maintain	90% Confidence Interval Upper Limit:1343 Lower Limit:1170 ability Indices Corrective Maintenance — (All Event	Estapli Estapli Balanti Estaplica
90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On ATTR _f : 10.9 ACMM _f : 6.1	e Interval hit: 7495 hit: 5468 hice — (Forced Shully)	Maintain	90% Confidence Interval Upper Limit: 1343 Lower Limit: 1170 ability Indices Corrective Maintenance — (All Event MTTR _{cm} : 9.5 MCMM _{cm} : 4.0	
90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On MTTR $_{\mathbf{f}}$: 10.9 MCMM $_{\mathbf{f}}$: 6.1 Max. Observed 1	e Interval nit: 7495 nit: 5468 ace — (Forced Shully) ———————————————————————————————————	Maintain	90% Confidence Interval Upper Limit: 1343 Lower Limit: 1170 ability Indices Corrective Maintenance — (All Event MTTR _{cm} : 9.5 MCMM _{cm} : 4.0 Max. Observed MH: 350	
90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On MTTR $_{\mathbf{f}}$: $\frac{10.9}{6.1}$ Max. Observed 1	e Interval nit: 7495 nit: 5468 ace — (Forced Shully)	Maintain	90% Confidence Interval Upper Limit: 1343 Lower Limit: 1170 ability Indices Corrective Maintenance — (All Event MTTR _{cm} : 9.5 MCMM _{cm} : 4.0	
90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On MTTR _f : 10.9 MCMM _f : 6.1 Max. Observed I MCMM _f : 16.4 Variance: 51	e Interval nit: 7495 nit: 5468 ace — (Forced Shully) MH: 124	Maintain	90% Confidence Interval Upper Limit: 1343 Lower Limit: 1170 ability Indices Corrective Maintenance — (All Event MTTR _{cm} : 9.5 MCMM _{cm} : 4.0 Max. Observed MH: 350 MCMM _{cm} : 14.3 Variance: 1088	
Upper Lim Lower Lim Corrective Maintenan Failure Events On MTTRf: 10.9 MCMMf: 6.1 Max. Observed I MCMMf: 16.4 Variance: 51 Indicated Distributio *REMARKS: (1) 325010226	e Interval nit: 7495 nit: 5468 ace — (Forced Shu nly) MH: 124 on (s): Exponent	Maintain tdown	90% Confidence Interval	og Normal

Equipment Identification

CID/APL Number(s): 325010175* (1	Plant, Air Condn. Cap. 110 to 350 Tons Federal Stock Number: **
	07000
Technical Manual: **	0.732 September 1997
Manufacturer:**	terminal to
	1997
	Basic Data
Ship Population: SSBN/CVA	Equip. Population/Ship: **
Equip. Population in Data Base:4	Data Assessment Period: 7/1/67 - 6/30/
Utilization Factors: **	
Total Equip. Operating Time (hours):	287533
Total Number of: Failures (CM _f): 119	Corrective Maintenance Events (CM): 568
Total CM _f Repair Man-Hours:7880	Total CM Repair Man-Hours: 21114
	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Mean Time Between Corrective Maintenance ce) MTBCM: 506
Mean Time Between Failure	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCM _f : 2416	Mean Time Between Corrective Maintenance ce) MTBCM: 506
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCM _f : 2416 90% Confidence Interval	Mean Time Between Corrective Maintenance ce) MTBCM: 506 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829	Mean Time Between Corrective Maintenance ce) MTBCM: 506 90% Confidence Interval Upper Limit: 543
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCM _f : 2416 90% Confidence Interval	Mean Time Between Corrective Maintenance ce) MTBCM: 506 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075	Mean Time Between Corrective Maintenance ce) MTBCM: 506 90% Confidence Interval Upper Limit: 543
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075	Mean Time Between Corrective Maintenance ce) MTBCM:506 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075 MacCorrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 44.1	Mean Time Between Corrective Maintenance ce) MTBCM: 506 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 44.1 MCMM _f : 6.0	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 44.1 MCMM _f : 6.0 Max. Observed MH: 1000	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 44.1 MCMM _f : 6.0 Max. Observed MH: 1000 MCMM _e : 66.2	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 44.1 MCMM _f : 6.0 Max. Observed MH: 1000	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 2416 90% Confidence Interval Upper Limit: 2829 Lower Limit: 2075 MacCorrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 44.1 MCMM _f : 6.0 Max. Observed MH: 1000 MCMM _e : 66.2	Mean Time Between Corrective Maintenance ce) MTBCM:

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Noun Name: Air Conditioning Plant	
General Description: Air Conditioner -	
CID/APL Number(s): 330010003* (1)	Federal Stock Number:
Equipment Identification Code:	AA04000
Technical Manual: **	
Manufacturer: **	
	Basic Data
DDG/DE/DLG/LPH/LSD/LS	ST/MSO/
Ship Population: <u>AE/AFS/AO/AS/ATF/CVA/</u>	Equip. Population/Snip:
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:	hoosia
Total Equip. Operating Time (hours):	4200512
	Corrective Maintenance Events (CM): 955
Total CM _f Repair Man-Hours: 5448	Total CM Repair Man-Hours:12934
Maintenance Factors:	0.67
	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045	Mean Time Between Corrective Maintenance MTBCM: 4398
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643 Lower Limit: 4170
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895 Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643 Lower Limit: 4170 ainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643 Lower Limit: 4170 ainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM $_{\rm f}$: 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895 Maintenance — (Forced Shutdown Failure Events Only) MTTR $_{\rm f}$: 11.4 MCMM $_{\rm f}$: 6.0	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643 Lower Limit: 4170 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.1 MCMM _{cm} : 4.0
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4 MCMM _f : 6.0 Max. Observed MH: 260	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643 Lower Limit: 4170 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.1 MCMM _{cm} : 4.0 Max. Observed MH: 502
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4 MCMM _f : 6.0 Max. Observed MH: 260 MCMM _f : 17.1	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643 Lower Limit: 4170 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.1 MCMM _{cm} : 4.0 Max. Observed MH: 502 MCMM _{cm} : 13.6
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895 Mainta Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4 MCMM _f : 6.0 Max. Observed MH: 260	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4 MCMM _f : 6.0 Max. Observed MH: 260 MCMM _f : 17.1 Variance: 841 Indicated Distribution (s): Exponential	MTBCM: 4398 90% Confidence Interval Upper Limit: 4643 Lower Limit: 4170 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.1 MCMM _{cm} : 4.0 Max. Observed MH: 502 MCMM _{cm} : 13.6 Variance: 1042 Normal Log Normal
(Forced Shutdown Corrective Maintenance) MTBCM _f : 13045 90% Confidence Interval Upper Limit: 14333 Lower Limit: 11895 Mainte Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 11.4 MCMM _f : 6.0 Max. Observed MH: 260 MCMM _f : 17.1 Variance: 841 Indicated Distribution (s): Exponential	Mean Time Between Corrective Maintenance MTBCM: 4398 90% Confidence Interval Upper Limit: 4643 Lower Limit: 4170 ainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 9.1 MCMM _{cm} : 4.0 Max. Observed MH: 502 MCMM _{cm} : 13.6 Variance: 1042

General Description: Capstan, E	lec. Max. P	Pull 9000 @1	00 FPM to	20000	@50 FPM
CID/APL Number(s): 53018001			Number:	**	zagasinia luz
Equipment Identification Code:					
Technical Manual:					
Manufacturer:	**			+ K	19901981
	Basi	ic Data			
Ship Population: AFS, ATF, DEG, 1	DLG, LPD, LSD	Equip. Po	pulation/Ship:	**	
Equip. Population in Data Base:	48	Data Asse	ssment Period:	7/1/67	- 6/30/
Utilization Factors:	**		Ване	zobCl mi c	outside office
Total Equip. Operating Time (hours)):	13873			osessi notess
Total Number of: Failures (CM _f):	17	Corrective Main	ntenance Event	ts (CM): _	60
Total CM _f Repair Man-Hours:	163	Total CM Repa	ir Man-Hours:	507	ic reduced i
Maintenance Factors:	0 60	att		and only	MAR MO
(Forced Shutdown Corrective M MTBCM _f : 816		Mean Time Bet	231		nance
(Forced Shutdown Corrective M MTBCM _f : 816 90% Confidence Interval Upper Limit: 1281		Mean Time Bet MTBCM: 90% Conf	231 idence Interval	290	ance
MTBCM _f : 816 90% Confidence Interval Upper Limit: 1281	laintenance)	Mean Time Bet MTBCM: 90% Conf	231 idence Interval	290	nance
(Forced Shutdown Corrective M MTBCM _f : 816 90% Confidence Interval Upper Limit: 1281 Lower Limit: 544 Corrective Maintenance — (Forced Sh	laintenance) Maintainal	Mean Time Bet MTBCM: 90% Confi Uppe Lowe	231 idence Interval r Limit: er Limit:	290 186	nance
(Forced Shutdown Corrective M MTBCM _f : 816 90% Confidence Interval Upper Limit: 1281 Lower Limit: 544 Corrective Maintenance — (Forced Sh	laintenance) Maintainal	Mean Time Bet MTBCM: 90% Confi Uppe Lowe bility Indices Corrective Main	231 idence Interval r Limit: er Limit:	290 186	ance
(Forced Shutdown Corrective M MTBCM _f : 816 90% Confidence Interval Upper Limit: 1281 Lower Limit: 544 Corrective Maintenance — (Forced Sh	laintenance) Maintainal	Mean Time Bet MTBCM: 90% Conf. Uppe Lowe bility Indices Corrective Main	231 idence Interval r Limit: er Limit:	290 186	ance sind passatu sind passa
(Forced Shutdown Corrective M MTBCM _f : 816 90% Confidence Interval Upper Limit: 1281 Lower Limit: 544 Corrective Maintenance — (Forced Sh Failure Events Only) MTTR _f : 6.4	laintenance) Maintainal	Mean Time Bet MTBCM: 90% Confi Uppe Lowe bility Indices Corrective Main MTTR _{cm} : MCMM _{cm} :	231 idence Interval r Limit: r Limit: atenance — (Al	290 186	ance
(Forced Shutdown Corrective M MTBCM _f : 816 90% Confidence Interval	laintenance) Maintainal	Mean Time Bet MTBCM: 90% Confi Uppe Lowe bility Indices Corrective Main MTTR _{cm} : MCMM _{cm} : Max. Obse	231 idence Interval r Limit: r Limit: atenance — (Al	290 186	ance
(Forced Shutdown Corrective M MTBCM _f : 816 90% Confidence Interval	laintenance) Maintainal	Mean Time Bet MTBCM: 90% Confi Uppe Lowe bility Indices Corrective Main MTTR _{cm} : MCMM _{cm} :	231 idence Interval r Limit: or Limit: stenance — (Al 5.6 4.7 rved MH: 8.5	290 186	iance
(Forced Shutdown Corrective M MTBCM _f : 816 90% Confidence Interval Upper Limit: 1281 Lower Limit: 544 Corrective Maintenance — (Forced Sh Failure Events Only) MTTR _f : 6.4 MCMM _f : 5.0 Max. Observed MH: 76 MCMM _f : 9.6	Maintainal utdown	Mean Time Bed MTBCM: 90% Confi Uppe Lowe bility Indices Corrective Main MTTR _{cm} : MCMM _{cm} : Max. Obse MCMM _{cm} : Variance: Normal	231 idence Interval r Limit: er Limit: stenance - (Al	290 186 I Events)	Normal

General Description: Elevator F		
CID/APL Number(s): 590020032*	(1)	Federal Stock Number: **
Equipment Identification Code:	KT06/	/KT07
Cechnical Manual: **		
Manufacturer: **		
	Ba	sic Data
Ship Population: AE/AFS/AO/LPI)	Equip. Population/Ship:
Equip. Population in Data Base:		Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **		
Total Equip. Operating Time (hours):		28559
Total Number of: Failures (CM _f):	56	Corrective Maintenance Events (CM):162
Total CM _f Repair Man-Hours:1		하다 하는 사람들이 보고 있다. 그는 사람들은 그는 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은
Maintenance Factors:	0.67	
Mean Time Between Failure (Forced Shutdown Corrective Main		Mean Time Between Corrective Maintenance MTBCM: 176
(Forced Shutdown Corrective Main MTBCM _f : 509 90% Confidence Interval	ntenance)	Mean Time Between Corrective Maintenance MTBCM: 176 90% Confidence Interval
(Forced Shutdown Corrective Main MTBCM _f : 509 90% Confidence Interval	ntenance)	Mean Time Between Corrective Maintenance MTBCM: 176
(Forced Shutdown Corrective Main MTBCM _f : 509 90% Confidence Interval Upper Limit: 645	ntenance)	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:202
(Forced Shutdown Corrective Main MTBCM _f :	ntenance) Maintair	Mean Time Between Corrective Maintenance MTBCM: 176 90% Confidence Interval Upper Limit: 202 Lower Limit: 155
(Forced Shutdown Corrective Main MTBCM _f :	ntenance) Maintair	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	ntenance) Maintair	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	ntenance) Maintair	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	ntenance) Maintair	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	ntenance) Maintair	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	Maintair	Mean Time Between Corrective Maintenance MTBCM:

Federal Stock Number:**
and depletion of the
Ten and Jen
48000
asic Data
Equip. Population/Ship: **
Data Assessment Period: 7/1/67 - 6/30
Annual management of the property of the second of the sec
58774
Corrective Maintenance Events (CM):529
Total CM Repair Man-Hours: 3547
57
Mean Time Between Corrective Maintenance
Mean Time Between Corrective Maintenance MTBCM: 111
MTBCM: 111 90% Confidence Interval
MTBCM: 111 90% Confidence Interval Upper Limit: 120
MTBCM: 111 90% Confidence Interval
MTBCM: 111 90% Confidence Interval Upper Limit: 120
MTBCM: 90% Confidence Interval
MTBCM: 111 90% Confidence Interval Upper Limit: 120 Lower Limit: 103 inability Indices Corrective Maintenance — (All Events)
MTBCM: 111 90% Confidence Interval Upper Limit: 120 Lower Limit: 103 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.5
MTBCM: 111 90% Confidence Interval Upper Limit: 120 Lower Limit: 103 inability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 4.5 MCMM _{cm} : 0.6
MTBCM:
MTBCM:
MTBCM:
MTBCM:

Noun Name: Winch, Electric,	ic, Max Cap 400 to 15000 lbs.
CID/APL Number(s): 620040011* (1	
	1, K102, KC01
**	
Technical Manual:	
Manufacturer: **	
	A10713.47
	Basic Data
Ship Population: DD/DDG/DE/DEG/DI	LG/MSC/MSO Equip. Population/Ship: **
Equip. Population in Data Base: 146	
Utilization Factors: **	
Total Equip. Operating Time (hours):	17663
Total Number of: Failures (CM _f):	44 Corrective Maintenance Events (CM): 167
	Total CM Repair Man-Hours: 2219
Maintenance Factors:	
MTBCM _f : 401 90% Confidence Interval Upper Limit: 524	Upper Limit:
Lower Limit: 312	Lower Limit: 93
	Maintainability Indices
Corrective Maintenance — (Forced Shutdow	wn Corrective Maintenance — (All Events)
Failure Events Only)	(Sint) diversit southly
MTTR _f : 8.0	MTTR _{cm} :9.0
MCMM _f :4.5	MCMM _{cm} :5.0
Max. Observed MH: 101	Max. Observed MH: 225
MCMM _f :12.0	MCMM _{cm} : 13.4
Variance: 473	Variance: 770
	erenta de la compania
Indicated Distribution(s): Exponential _	
	0420055, 620890041, 620890065, 620890066,
620890041, 620890078, 62089	90079, 621410006, 6214 9 0005, 621 45000 6, sheets. 620220061

	Federal Stock Number: **
Technical Manual: **	
Manufacturer:**	
	Basic Data
	Equip. Population/Ship:
Equip. Population in Data Base: 60 Utilization Factors: **	Data Assessment Period: 7/1/67 - 6/30/6
Total Equip. Operating Time (hours):	10552
Total Number of: Failures (CM _f): 5	Corrective Maintenance Events (CM):
Total CM _f Repair Man-Hours: 31 Maintenance Factors: 0	Total CM Repair Man-Hours: 112
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	PER A CONTRACT OF THE
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval) MTBCM: 703 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval Upper Limit: 5356	90% Confidence Interval Upper Limit:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval) MTBCM: 703 90% Confidence Interval
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval Upper Limit: 5356 Lower Limit: 1004	90% Confidence Interval Upper Limit: 1141
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval Upper Limit: 5356 Lower Limit: 1004	MTBCM: 703 90% Confidence Interval Upper Limit: 1141 Lower Limit: 457
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval	90% Confidence Interval Upper Limit:141 Lower Limit:457 ntainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 703 90% Confidence Interval Upper Limit: 1141 Lower Limit: 457 ntainability Indices Corrective Maintenance — (All Events)
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2110 90% Confidence Interval	MTBCM:
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 703 90% Confidence Interval Upper Limit: 1141 Lower Limit: 457 Intainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 5.0 MCMM _{cm} : 4.5 Max. Observed MH: 26 MCMM _{cm} : 7.5

Noun Name: Winch, Cargo, E	lectric	or 18 , state state, allow	E said a
General Description: _ Winch, Ele	c. 630 lbs	s. to 14440 lbs.	antificació inte
CID/APL Number(s): 620050068*	(1)	Federal Stock Number: **	retimar 1977
Equipment Identification Code:			ingle of the season.
Technical Manual:	*)		faured boins
Manufacturer:	Y.A	+	tangades
		c Data	
Ship Population: AE, AF, AØ, DI	DG, DLG, I	PH. Equip. Population/Ship: Data Assessment Period: 7/1/67	**
Equip. Population in Data Base:	109	Data Assessment Period: 7/1/67	7 - 6/30/69
Utilization Factors:	**		Hitz Hassaul
Total Equip. Operating Time (hours):			podě nestě iki
Total Number of: Failures (CM _f):_	57	Corrective Maintenance Events (CM):	179
Total CM _f Repair Man-Hours:	588	Total CM Repair Man-Hours:	1440
Maintenance Factors:	0.67		
90% Confidence Interval Upper Limit: 869		90% Confidence Interval Upper Limit: 249	esta (1881) portisió soci despera
Lower Limit: 553	(19 wat	Lower Limit: 194	Same and the same
Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 6.9		Corrective Maintenance — (All Events) MTTR _{cm} :5.4	
MCMM _f : 3.0		MCMM _{cm} : 2.0	
Max. Observed MH: 171	501.05 <u>0</u> 400	Max. Observed MH:172	Nax Observe
MCMM _f : 10.3		MCMM _{cm} : 8.1	
Variance: 579		Variance: 461	
Indicated Distribution(s): Exponenti	al	Normal Log	Normal X
*REMARKS: *(1) 620050162,	620200003	, 620200015, 620420061, 620	420151,
620920022. ** See indiv	vidual CID	data sheet.	

	Federal Stock Number: **
Equipment Identification Code:	KCO1, KUO1, KVO2
Technical Manual:**	The second secon
Manufacturer: **	
	Basic Data
Ship Population: AE/AFS/AO/LST	Equip. Population/Ship: **
	Data Assessment Period: 7/1/67 - 6/30/6
Utilization Factors: **	- Photograph April 200
Total Equip. Operating Time (hours): _	34221
Total Number of: Failures (CM _f):	184 Corrective Maintenance Events (CM): 526
Total CMe Repair Man-Hours:	3866 Total CM Repair Man-Hours: 10607
Maintenance Factors:	
(Forced Shutdown Corrective Maint	Reliability Indices Mean Time Between Corrective Maintenance senance) MTBCM: 65
MTBCM _f : 185 90% Confidence Interval Upper Limit: 211	Mean Time Between Corrective Maintenance senance) MTBCM: 90% Confidence Interval Upper Limit:70
(Forced Shutdown Corrective Maint MTBCM _f : 185 90% Confidence Interval	Mean Time Between Corrective Maintenance senance) MTBCM:65 90% Confidence Interval Upper Limit:70
(Forced Shutdown Corrective Maint MTBCM _f : 185 90% Confidence Interval Upper Limit: 211	Mean Time Between Corrective Maintenance senance) MTBCM: 65 90% Confidence Interval Upper Limit: 70
(Forced Shutdown Corrective Maint MTBCM _f : 90% Confidence Interval Upper Limit:211 Lower Limit:165	Mean Time Between Corrective Maintenance senance) MTBCM:
(Forced Shutdown Corrective Maint MTBCM _f : 185 90% Confidence Interval Upper Limit: 211	Mean Time Between Corrective Maintenance senance) MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Mainted MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:

General Description: Winch, Elec, 2	DM 2 GYP Max Cap 11000 to 22700 lbs.
CID/APL Number(s): 620180027* (1)	Federal Stock Number: **
	K123
Technical Manual: **	Jacob Michigan St.
Manufacturer:**	The state of the s
	Basic Data
Ship Population: LST	Equip. Population/Ship:**
Equip. Population in Data Base: 15	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	The second secon
Total Equip. Operating Time (hours):	469
Total Number of: Failures (CM _f): 15	Corrective Maintenance Events (CM):42
Total CMc Repair Man-Hours: 523	Total CM Repair Man-Hours:714
Maintenance Factors:	0.67
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	œ)
Mean Time Between Failure (Forced Shutdown Corrective Maintenand MTBCM _f : 31 90% Confidence Interval	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenand) MTBCM _f : 31	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 90% Confidence Interval Upper Limit:51 Lower Limit:20	Mean Time Between Corrective Maintenance ce) MTBCM: 11 90% Confidence Interval Upper Limit: 15
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 31 90% Confidence Interval Upper Limit: 51 Lower Limit: 20	Mean Time Between Corrective Maintenance ce) MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM: 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCMf:	Mean Time Between Corrective Maintenance ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance ce) MTBCM:

Federal Stock Number: **
Basic Data
T Equip. Population/Ship: **
Data Assessment Period: 7/1/67 - 6/30/6
2765
Corrective Maintenance Events (CM): 107
Total CM Repair Man-Hours:3033
90% Confidence Interval Upper Limit: 31
Lower Limit: 22
tainability Indices
Corrective Maintenance — (All Events)
Corrective Maintenance — (All Events)
Corrective Maintenance — (All Events) MTTR _{cm} : 18.9
Corrective Maintenance — (All Events) MTTR _{cm} : 18.9 MCMM _{cm} : 4.0
Corrective Maintenance — (All Events) MTTR _{cm} : 18.9 MCMM _{cm} : 4.0 Max. Observed MH: 505
Corrective Maintenance — (All Events) MTTR _{cm} :
Corrective Maintenance — (All Events) MTTR _{cm} : 18.9 MCMM _{cm} : 4.0 Max. Observed MH: 505

General Description: Windlass	Shaft, Elec/Hyd.
delicial Description	Elhyd 10000 lbs. 36 FPM to 140,000 lbs. 30 FPM
CID/APL Number(s): 630150007*	(1) Federal Stock Number: **
	KG02
Technical Manual:	
Manufacturer:	
AE, AFS, AØ, CV	Basic Data VA, LST Equip. Population/Ship: **
Fauin Population in Data Base:	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:	
Total Equip Operating Time (hours):	2687
	21 Corrective Maintenance Events (CM): 119
	3996 Total CM Repair Man-Hours: 7519
	MTRCM 22
MTBCM _f : 127 90% Confidence Interval Upper Limit: 191	MTBCM: 90% Confidence Interval Upper Limit:26
MTBCM _f : 127 90% Confidence Interval	MTBCM:
MTBCM _f : 127 90% Confidence Interval Upper Limit: 191	MTBCM: 90% Confidence Interval Upper Limit:26
90% Confidence Interval Upper Limit: 191 Lower Limit: 89	MTBCM: 90% Confidence Interval Upper Limit:26 Lower Limit:19 Maintainability Indices
90% Confidence Interval Upper Limit: 191 Lower Limit: 89 Corrective Maintenance — (Forced Shute Failure Events Only)	MTBCM:
90% Confidence Interval Upper Limit: 191 Lower Limit: 89 Corrective Maintenance — (Forced Shute Failure Events Only)	MTBCM:
90% Confidence Interval Upper Limit: 191 Lower Limit: 89 Corrective Maintenance — (Forced Shute Failure Events Only) MTTR _f : 126.9 MCMM _f : 8.0	MTBCM:
90% Confidence Interval Upper Limit: 191 Lower Limit: 89 Corrective Maintenance — (Forced Shute Failure Events Only) MTTR _f : 126.9 MCMM _f : 8.0 Max. Observed MH: 2516	MTBCM:
MTBCM _f :90% Confidence Interval Upper Limit:191 Lower Limit:89 Corrective Maintenance — (Forced Shute Failure Events Only) MTTR _f :126.9 MCMM _f :8.0 Max. Observed MH:2516 MCMM _f :190.3	MTBCM:
MTBCM _f :	MTBCM:
MTBCM _f :90% Confidence Interval Upper Limit:191 Lower Limit:89 Corrective Maintenance — (Forced Shute Failure Events Only) MTTR _f :126.9 MCMM _f :8.0 Max. Observed MH:2516 MCMM _f :190.3	MTBCM:
MTBCM _f :	MTBCM:
90% Confidence Interval Upper Limit: 191 Lower Limit: 89 Corrective Maintenance — (Forced Shute Failure Events Only) MTTR _f : 126.9 MCMM _f : 8.0 Max. Observed MH: 2516 MCMM _f : 190.3 Variance: 329650 Indicated Distribution(s): Exponential	MTBCM:

General Description: Windlass, Elec.	2800 lbs. to 10000 lbs.
	Federal Stock Number: **
Equipment Identification Code.	(GO6
Technical Manual:	**
Manufacturer:	**
	Basic Data
Ship Population: MSC, MSØ	Equip. Population/Ship: **
	Data Assessment Period: 7/1/67 - 6/30
Utilization Factors: **	
Total Equip. Operating Time (hours):	1585
Total Number of: Failures (CM _f): 12	Corrective Maintenance Events (CM): 26
	Total CM Repair Man-Hours: 438
Maintenance Factors:	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 132	MTBCM:60
Mean Time Between Failure (Forced Shutdown Corrective Maintenance	Mean Time Between Corrective Maintenance
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f : 132 90% Confidence Interval Upper Limit: 229 Lower Limit: 82	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:87
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMf: 132 90% Confidence Interval Upper Limit: 229 Lower Limit: 82 Ma Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 90% Confidence Interval Upper Limit:87 Lower Limit:44
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCMf: 132 90% Confidence Interval Upper Limit: 229 Lower Limit: 82 Ma Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance MTBCM:
Mean Time Between Failure (Forced Shutdown Corrective Maintenance MTBCM _f :	Mean Time Between Corrective Maintenance (ce) MTBCM:

Noun Name:D			
General Description:			
CID APL Number(s)	: 664010005*	(1)	Federal Stock Number: **
Equipment Identifica	tion Code:	00	Constitution of the Consti
Technical Manual:	**		The second secon
Manufacturer:	**		
		Ba	sic Data
Ship Population: A	TF, LST MSC,	MSØ, SSB	N. SSN Equip. Population/Ship: **
Equip. Population in	Data Base:	85	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: _		The second section of the second section is a second section of the second section section is a second section	and the state of the contract of the state o
Total Equip. Operati	ng Time (hours):	armorals we	367279
Total Number of:	Failures (CMf):_	103	Corrective Maintenance Events (CM): 545
Total CM. Repair Ma	an-Hours:2	367	_ Total CM Repair Man-Hours:34531
Maintenance Factors			
		Reliabi	ility Indices
		Reliabi	ility Indices
Mean Time Between	Failure	Reliabi	Mean Time Between Corrective Maintenance
	Failure		Const. Between Fallows
(Forced Shutdo	wn Corrective Mai		Const. Between Fallows
	wn Corrective Mai		Mean Time Between Corrective Maintenance
(Forced Shutdo MTBCM _f : 3565 90% Confidence	wn Corrective Main	ntenance)	Mean Time Between Corrective Maintenance MTBCM:673 90% Confidence Interval Upper Limit:724
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim	wn Corrective Mai	ntenance)	Mean Time Between Corrective Maintenance MTBCM: 673
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim	e Interval	ntenance)	Mean Time Between Corrective Maintenance MTBCM: 673 90% Confidence Interval Upper Limit: 724
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim	e Interval	ntenance)	Mean Time Between Corrective Maintenance MTBCM: 673 90% Confidence Interval Upper Limit: 724
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim Lower Lim	e Interval hit: 4227 hit: 3027	ntenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 673 90% Confidence Interval Upper Limit: 724 Lower Limit: 628 ability Indices
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim Lower Lim	e Interval hit: 4227 hit: 3027	ntenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 673 90% Confidence Interval Upper Limit: 724 Lower Limit: 628 ability Indices
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On	e Interval nit: 4227 nit: 3027	ntenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 673 90% Confidence Interval Upper Limit: 724 Lower Limit: 628 ability Indices Corrective Maintenance — (All Events)
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On	e Interval nit: 4227 nit: 3027	ntenance) Maintain	Mean Time Between Corrective Maintenance MTBCM: 673 90% Confidence Interval Upper Limit: 724 Lower Limit: 628 ability Indices Corrective Maintenance — (All Events)
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On MTTR _f : 15.5	e Interval hit: 4227 hit: 3027	ntenance) Maintain	Mean Time Between Corrective Maintenance MTBCM:673 90% Confidence Interval Upper Limit:724 Lower Limit:628 ability Indices Corrective Maintenance — (All Events) MTTR _{cm} :42.3 MCMM _{cm} :14.0 Max. Observed MH:1539
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On MTTR _f : 15.5 MCMM _f : 5.2 Max. Observed 16 MCMM _f : 23.2	e Interval hit: 4227 hit: 3027 hit: 1000 Shut	ntenance) Maintain	Mean Time Between Corrective Maintenance MTBCM:673
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On MTTR _f : 15.5 MCMM _f : 5.2	e Interval hit: 4227 hit: 3027 hit: 1000 Shut	ntenance) Maintain	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdo MTBCM _f : 3565 90% Confidence Upper Lim Lower Lim Corrective Maintenan Failure Events On MTTR _f : 15.5 MCMM _f : 5.2 Max. Observed 16 MCMM _f : 23.2	e Interval hit: 4227 hit: 3027 hit: 650	mtenance) Maintain	Mean Time Between Corrective Maintenance MTBCM:673

CID/APL Number(s):66536016	55* (1)	_ Federal Stock Number:	**
Equipment Identification Code:			eases
Technical Manual:			
Manufacturer:	**		down War
			quantities of the second
	Ba	sic Data	
Ship Population: DE, LST		Equip. Population/Shi	n: **
Equip. Population in Data Base:	60		od: 7/1/67 - 6/30
Utilization Factors:	**		
Total Equip. Operating Time (hours		347267	
Total Number of: Failures (CM _f)	:114	_ Corrective Maintenance Eve	ents (CM): 637
Total CM _f Repair Man-Hours:	2286	_ Total CM Repair Man-Hour	29907
Maintenance Factors:	0 (-	ess T	
(Forced Shutdown Corrective M MTBCM _f : 3046 90% Confidence Interval	Maintenance)	Mean Time Between Correct MTBCM: 545 90% Confidence Interv	ral
(Forced Shutdown Corrective M MTBCM _f : 3046	Maintenance)	Mean Time Between Correct MTBCM: 545	val 583
MTBCM _f : 3046 90% Confidence Interval Upper Limit: 3579	faintenance)	Mean Time Between Correct MTBCM: 545 90% Confidence Interv Upper Limit:	val 583
(Forced Shutdown Corrective M MTBCM _f :3046 90% Confidence Interval	Maintaina	Mean Time Between Correct MTBCM: 545 90% Confidence Interv Upper Limit: Lower Limit:	7al 583 511
(Forced Shutdown Corrective M MTBCM _f : 3046 90% Confidence Interval Upper Limit: 3579 Lower Limit: 2607 Corrective Maintenance — (Forced Sh	Maintaina	Mean Time Between Correct MTBCM: 545 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (Annual	7al 583 511
(Forced Shutdown Corrective M MTBCM _f :3046 90% Confidence Interval	Maintaina	Mean Time Between Correct MTBCM: 545 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Mability Indices Corrective Maintenance — (AMTTR _{cm} : 31.3	7al 583 511
(Forced Shutdown Corrective M MTBCM _f :3046 90% Confidence Interval Upper Limit:3579 Lower Limit:2607 Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f :13.4 MCMM _f :5.0 Max. Observed MH:280	Maintaina	Mean Time Between Correct MTBCM: 545 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Corrective Maintenance — (Annual	7al 583 511
(Forced Shutdown Corrective M MTBCM _f :3046 90% Confidence Interval	Maintaina	Mean Time Between Correct MTBCM: 545 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Mability Indices Corrective Maintenance — (AMTTR _{cm} : 31.3 MCMM _{cm} : 8.0 Max. Observed MH:	7al
(Forced Shutdown Corrective M MTBCM _f :3046 90% Confidence Interval Upper Limit:3579 Lower Limit:2607 Corrective Maintenance — (Forced Shutdown Events Only) MTTR _f :13.4 MCMM _f :5.0 Max. Observed MH:280	Maintaina	Mean Time Between Correct MTBCM: 545 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Mability Indices Corrective Maintenance — (AMTTR _{cm} : 31.3 MCMM _{cm} : 8.0	7al
(Forced Shutdown Corrective M MTBCM _f :3046 90% Confidence Interval Upper Limit:3579 Lower Limit:2607 Corrective Maintenance — (Forced Shallure Events Only) MTTR _f :13.4 MCMM _f :5.0 Max. Observed MH:280 MCMM _f :20.1 Variance:1767 Indicated Distribution (s): Exponer	Maintaina nutdown	Mean Time Between Correct MTBCM: 545 90% Confidence Interv Upper Limit: Lower Limit: Lower Limit: Mover Lim	7al

	Auxilian	- 075 ND
General Description: Engine DSL	, 127 HP 1	to 275 HP
CID/APL Number(s): 665000015*		Federal Stock Number:
Equipment Identification Code: <u>Alo</u>	VV	Alberta resulta
Technical Manual:		CHARLE ALL DE
Manufacturer:	**	
	Basi	ic Data
Ship Population: LST, MSC, MSØ		Equip. Population/Ship: **
Equip. Population in Data Base:	45	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors:	**	TREE TO THE PROPERTY AND STREET WHEN THE
Total Equip. Operating Time (hours):	gar a di sa maji	168118
Fotal Number of: Failures (CMf):	118	Corrective Maintenance Events (CM): 589
		Total CM Repair Man-Hours: 20019
Maintenance Factors:	0.67	
(Forced Shutdown Corrective Main		Mean Time Between Corrective Maintenance MTBCM: 285
Mean Time Between Failure (Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669 Lower Limit: 1223		Mean Time Between Corrective Maintenance
(Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669	Chart stor capt work	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669 Lower Limit: 1223 Corrective Maintenance — (Forced Shut	 Maintains	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669 Lower Limit: 1223 Corrective Maintenance — (Forced Shut Failure Events Only)	 Maintains	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f :	 Maintains	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669 Lower Limit: 1223 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 19.0 MCMM _f : 4.6 Max. Observed MH: 1189	 Maintains	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669 Lower Limit: 1223 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 19.0 MCMM _f : 4.6 Max. Observed MH: 1189 MCMM _f : 28.4	 Maintains	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669 Lower Limit: 1223 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 19.0 MCMM _f : 4.6 Max. Observed MH: 1189	 Maintains	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669 Lower Limit: 1223 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 19.0 MCMM _f : 4.6 Max. Observed MH: 1189 MCMM _f : 28.4 Variance: 14141 Indicated Distribution (s): Exponentia	Maintains down	Mean Time Between Corrective Maintenance MTBCM:
(Forced Shutdown Corrective Main MTBCM _f : 1424 90% Confidence Interval Upper Limit: 1669 Lower Limit: 1223 Corrective Maintenance — (Forced Shut Failure Events Only) MTTR _f : 19.0 MCMM _f : 4.6 Max. Observed MH: 1189 MCMM _f : 28.4 Variance: 14141 Indicated Distribution (s): Exponentia	Maintains down	Mean Time Between Corrective Maintenance MTBCM:

	Equipment	Identification	
Noun Name:Diesel Engine,	Auxiliary	thi manajupii	
General Description: Engine DSL	300 HP to	2117 HP	
CID/APL Number(s): 664910018*(1	.)	Federal Stock Number:	**
Equipment Identification Code:AI	.00		Callant Mark Mark Mark
	**		TO THE CHARMON STATES
Manufacturer:	**	(90	OD THE SHEETING THE COLUMN
	Basic	Data	
Ship Population: AØ, A7F, DEG, LS	T,MSC,MS	Equip. Population/Ship	:
Equip. Population in Data Base:	90	Data Assessment Period	1: 7/1/67 - 6/30/69
Utilization Factors:	**		
Total Equip. Operating Time (hours):		343032	
Total Number of: Failures (CMf):	133	Corrective Maintenance Ever	nts (CM): 746
Total CM _f Repair Man-Hours:2	454	Total CM Repair Man-Hours	: 39772
Maintenance Factors:		Total on Hopes was House	
MTBCM _f : 2579 90% Confidence Interval Upper Limit: 2993	E M081	90% Confidence Interva	 մ 489
90% Confidence Interval	E. MOST	wildow.	489
90% Confidence Interval Upper Limit: 2993	— — Maintainab	90% Confidence Interva	489
90% Confidence Interval Upper Limit: 2993		90% Confidence Interva Upper Limit: Lower Limit:	<u>489</u> <u>433</u>
90% Confidence Interval Upper Limit: 2993 Lower Limit: 2233 Corrective Maintenance — (Forced Shutdo		90% Confidence Interva Upper Limit: Lower Limit: ility Indices	<u>489</u> <u>433</u>
90% Confidence Interval Upper Limit:293 Lower Limit:2233 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f :12.3		90% Confidence Interva Upper Limit: Lower Limit: ility Indices Corrective Maintenance — (A	<u>489</u> <u>433</u>
90% Confidence Interval Upper Limit:2993 Lower Limit:2233 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f :12.3 MCMM _f :6.0 Max. Observed MH:301		90% Confidence Interva Upper Limit: Lower Limit: ility Indices Corrective Maintenance — (A MTTR _{cm} :35.5 MCMM _{cm} :10.0 Max. Observed MH:	<u>489</u> <u>433</u>
90% Confidence Interval Upper Limit: 2993 Lower Limit: 2233 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 12.3 MCMM _f : 6.0 Max. Observed MH: 301 MCMM _f : 18.5		90% Confidence Interva Upper Limit: Lower Limit: ility Indices Corrective Maintenance — (A MTTR _{cm} :35.5 MCMM _{cm} :10.0 Max. Observed MH:	489 433
90% Confidence Interval Upper Limit:293 Lower Limit:2233 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f :12.3 MCMM _f :6.0		90% Confidence Interva Upper Limit: Lower Limit: ility Indices Corrective Maintenance — (A MTTR _{cm} :35.5. MCMM _{cm} :10.0.	489 433
90% Confidence Interval Upper Limit: 2993 Lower Limit: 2233 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 12.3 MCMM _f : 6.0 Max. Observed MH: 301 MCMM _f : 18.5	own	90% Confidence Interva Upper Limit: Lower Limit: ility Indices Corrective Maintenance — (A MTTR _{cm} :35.5 MCMM _{cm} :10.0 Max. Observed MH: MCMM _{cm} :53.3	489 433
90% Confidence Interval Upper Limit: 2993 Lower Limit: 2233 Corrective Maintenance — (Forced Shutdo Failure Events Only) MTTR _f : 12.3 MCMM _f : 6.0 Max. Observed MH: 301 MCMM _f : 18.5 Variance: 1428	own 665360153	90% Confidence Interva Upper Limit: Lower Limit: ility Indices Corrective Maintenance — (A MTTR _{cm} :35.5 MCMM _{cm} :10.0 Max. Observed MH: MCMM _{cm} :53.3 Variance:50392 Normal 8, 665360154, 665360	489 433 All Events) 5290

Noun Name: Purifiers, Fuel Oil	
General Description: Purifier, CTFGL	
CID/APL Number(s): 760010002,7600100	
Equipment Identification Code:1F28/1F30	0/AJG3/AJG4/AJ09
Fechnical Manual: **	
Manufacturer:**	
Tam /Tap (Mag (Mag (Agap))	Basic Data
LST/LSD/MSC/MSO/SSBN/ Ship Population:AE/AO/ATF/CVA/DD/DE/D	DDG/DLG/ Equip. Population/Ship:**
	Data Assessment Period: 7/1/67 - 6/30/69
Utilization Factors: **	
Total Equip. Operating Time (hours):23	31445
	Corrective Maintenance Events (CM): 633
	Total CM Repair Man-Hours:8166
Maintenance Factors: 0.67	
Mean Time Between Failure (Forced Shutdown Corrective Maintenance)	-/-
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285	Mean Time Between Corrective Maintenance MTBCM: 365 90% Confidence Interval Upper Limit: 391
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval	Mean Time Between Corrective Maintenance MTBCM: 365 90% Confidence Interval
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285 Lower Limit: 1015	Mean Time Between Corrective Maintenance MTBCM: 365 90% Confidence Interval Upper Limit: 391
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285 Lower Limit: 1015 Main Corrective Maintenance — (Forced Shutdown	Mean Time Between Corrective Maintenance MTBCM: 365 90% Confidence Interval Upper Limit: 391 Lower Limit: 342
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285 Lower Limit: 1015 Main Corrective Maintenance — (Forced Shutdown Failure Events Only)	Mean Time Between Corrective Maintenance MTBCM: 365 90% Confidence Interval Upper Limit: 391 Lower Limit: 342 Atainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285 Lower Limit: 1015 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 9.6	MTBCM: 365 90% Confidence Interval Upper Limit: 391 Lower Limit: 342 Stainability Indices Corrective Maintenance — (All Events)
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285 Lower Limit: 1015 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 9.6 MCMM _f : 3.0	MTBCM: 365 90% Confidence Interval Upper Limit: 391 Lower Limit: 342 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.6 MCMM _{cm} : 2.0
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285 Lower Limit: 1015 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 9.6 MCMM _f : 3.0 Max. Observed MH: 423	Mean Time Between Corrective Maintenance MTBCM: 365 90% Confidence Interval Upper Limit: 391 Lower Limit: 342 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.6 MCMM _{cm} : 2.0 Max. Observed MH: 874
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285 Lower Limit: 1015 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 9.6 MCMM _f : 3.0 Max. Observed MH: 423 MCMM _f : 14.4	MTBCM: 365 90% Confidence Interval Upper Limit: 391 Lower Limit: 342 Atainability Indices Corrective Maintenance — (All Events) MTTR _{cm} : 8.6 MCMM _{cm} : 2.0 Max. Observed MH: 874 MCMM _{cm} : 12.9
Mean Time Between Failure (Forced Shutdown Corrective Maintenance) MTBCM _f : 1140 90% Confidence Interval Upper Limit: 1285 Lower Limit: 1015 Main Corrective Maintenance — (Forced Shutdown Failure Events Only) MTTR _f : 9.6 MCMM _f : 3.0 Max. Observed MH: 423	Mean Time Between Corrective Maintenance MTBCM:

CID/APL Number(s):760010001,760010016	.0. 125 GPH to 375 GPH 6 (1) Federal Stock Number:		710
Equipment Identification Code: 1G43/1GL			
Technical Manual:**			
Manufacturer:**			
	Basic Data		
DLG/LPD/LSD/LST/SSBN	attri) viaga		
Ship Population: AO/ATF/CVA/DD/DDG/DE/I			
Equip. Population in Data Base: 285	Data Assessment Period	: 7/1/67 - 6/3	0/6
Utilization Factors: **	1222001		1900
Total Equip. Operating Time (hours):		1867	-
Total Number of: Failures (CM_f) : 555			
Total CM _f Repair Man-Hours:	Total CM Repair Man-Hours:	udies our sociaul	
Maintenance Factors: 0.67			
Reli	ability Indices		
Mean Time Between Failure	Mean Time Between Correction	ve Maintenance	
(Forced Shutdown Corrective Maintenance)	1.00	ve Maintenance	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2201	мтвсм : 654	sits I as eard ear O ascarball trade	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2201 90% Confidence Interval	MTBCM: 654 90% Confidence Interval	sits I as eard ear O ascarball trade	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2201 90% Confidence Interval Upper Limit: 2364	MTBCM: 654 90% Confidence Interval Upper Limit:	 ! 580	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2201 90% Confidence Interval	MTBCM: 654 90% Confidence Interval	 ! 580	
(Forced Shutdown Corrective Maintenance) MTBCM _f :201 90% Confidence Interval	MTBCM: 654 90% Confidence Interval Upper Limit:	 ! 580	
(Forced Shutdown Corrective Maintenance) MTBCM _f :201 90% Confidence Interval	MTBCM: 654 90% Confidence Interval Upper Limit: 654 Lower Limit: 654	680 630	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2201 90% Confidence Interval Upper Limit: 2364 Lower Limit: 2053	MTBCM: 654 90% Confidence Interval Upper Limit: 6	680 630	
(Forced Shutdown Corrective Maintenance) MTBCM _f : 2201 90% Confidence Interval	MTBCM: 654 90% Confidence Interval Upper Limit:	680 630	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 654 90% Confidence Interval Upper Limit: Lower Limit: ainability Indices Corrective Maintenance — (Al	580 530	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 654 90% Confidence Interval Upper Limit:	580 530	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 654 90% Confidence Interval Upper Limit: Lower Limit: 6 Ainability Indices Corrective Maintenance — (Ainability Indices) MTTR _{cm} : 5.3 MCMM _{cm} : 3.0 Max. Observed MH: 8.0	580 530	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 654 90% Confidence Interval Upper Limit:	580 530	
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 654 90% Confidence Interval Upper Limit: Lower Limit: 6 Ainability Indices Corrective Maintenance — (Ainability Indices) MTTR _{cm} : 5.3 MCMM _{cm} : 3.0 Max. Observed MH: 8.0	580 530	X
(Forced Shutdown Corrective Maintenance) MTBCM _f :	MTBCM: 654 90% Confidence Interval Upper Limit:	580 530 Il Events)	

	System, (CL Stbd. & Port	
CID/APL Number(s): 834900003			80.04
		timet/	
Technical Manual: **			
Manufacturer: **			
	Bas	sic Data	
Ship Population: LST/MSO	esmest years	Equip. Population/Ship: **	
Equip. Population in Data Base:	17	Data Assessment Period: 7/1/67 - 6/	30/69
Utilization Factors:	**	The family and The American	
Total Equip. Operating Time (hours):	druit exper	80808	
Total Number of: Failures (CM _f):	_20	_ Corrective Maintenance Events (CM):57_	100
Total CMe Repair Man-Hours:	3314	Total CM Repair Man-Hours: 5795	
Maintenance Factors:			
	Reliabi	lity Indices	
	with a direct	interest of the state of the st	
Mean Time Between Failure		Mean Time Between Corrective Maintenance	
Mean Time Between Failure (Forced Shutdown Corrective Ma	intenance)	Mean Time Between Corrective Maintenance	
(Forced Shutdown Corrective Ma		Mean Time Between Corrective Maintenance MTBCM: 1417	
		MTBCM: 1417 90% Confidence Interval	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval		MTBCM: 1417 90% Confidence Interval Upper Limit: 1789	
(Forced Shutdown Corrective Ma MTBCM _f : 4040		MTBCM: 1417	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097	salgeo stor I vere i Lesend I salant	MTBCM:90% Confidence IntervalUpper Limit:1789Lower Limit:1137	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097	salgeo stor I vere i Lesend I salant	MTBCM: 1417 90% Confidence Interval Upper Limit: 1789	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097	Maintain	MTBCM:90% Confidence IntervalUpper Limit:1789Lower Limit:1137	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097 Lower Limit: 2780 Corrective Maintenance — (Forced Shufailure Events Only)	Maintain	MTBCM: 1417 90% Confidence Interval Upper Limit: 1789 Lower Limit: 1137 ability Indices Corrective Maintenance — (All Events)	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097 Lower Limit: 2780 Corrective Maintenance — (Forced Shufailure Events Only) MTTR _f : 110.4	Maintain	MTBCM: 1417 90% Confidence Interval Upper Limit: 1789 Lower Limit: 1137 ability Indices Corrective Maintenance — (All Events) MTTRom: 67.8	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097 Lower Limit: 2780 Corrective Maintenance — (Forced Shufailure Events Only) MTTR _f : 110.4 MCMM _f : 25.7	Maintain	MTBCM:90% Confidence Interval	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097 Lower Limit: 2780 Corrective Maintenance — (Forced Shufailure Events Only) MTTR _f : 110.4 MCMM _f : 25.7 Max. Observed MH: 1107	Maintain	MTBCM:	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097 Lower Limit: 2780 Corrective Maintenance — (Forced Shufailure Events Only) MTTR _f : 110.4 MCMM _f : 25.7 Max. Observed MH: 1107 MCMM _f : 165.7	Maintain	MTBCM:	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097 Lower Limit: 2780 Corrective Maintenance — (Forced Shufailure Events Only) MTTR _f : 110.4 MCMM _f : 25.7 Max. Observed MH: 1107	Maintain	MTBCM:	
(Forced Shutdown Corrective Ma MTBCM _f : 4040 90% Confidence Interval Upper Limit: 6097 Lower Limit: 2780 Corrective Maintenance — (Forced Shu Failure Events Only) MTTR _f : 110.4 MCMM _f : 25.7 Max. Observed MH: 1107 MCMM _f : 165.7	Maintain	MTBCM:	A TO THE STATE OF

APPENDIX A

DIRECTORY OF EQUIPMENT IDENTIFICATION CODES

П

140 1000	AIR INTAKE GROUP
140 10 10	Airbox
140 1011	Drain
140 10 12	Plate, Explosion
1401013	Cover, Hand Hold
140 1020	Air Header
140 1021	Plate, Explosion
120 1030	Air Beater
140 1031	Body
140 1032	Plunger
1401033	Pump
1401034	Springs
140 1040	Gaging Device, Air Induction
1A01100	Blower, Left Hand, Scavenging Air
140 1 101	Bearing, Hadial
1401102	Bearing, Thrust
1401103	Cover, END Plate
140 1104	Plate, BND
140 1105	Gear, Drive
1401106	Gear, Driven
140 1107	Housing
140 1 108	Lobe
140110A	Shaft, Quill
1A0 110B	Retainer
140 1 10C	Seal, Oil
1AU 1200	Blower, Righthand, Scavenging Air
140 120 1	Bearing, Radial
140 1202	Bearing, Thrust
140 1203	Cover, END Plate
140 1204	Plate, END
140 1205	Gear, Drive
1AU 1206	Gear, Driven
140 1207	Housing
140 1208	Lobe
140 1204	Shaft, Quill
1A0 120B	Retainer
1A0 120C	Seal, Oil
140 1300	Manifold, hir Intake
140 1400	Silencer, Left Hand Blover
1A0 140 1	Bracket
140 1402	Coact
1A01403	Screen
140 14 10	Silencer, sight Hand Blover
140 1411	Bracket
1401412	Cover
1A0 1413	Screen

140 1500	Turbo Charger
140 1501	Bearing
140 1502	Bearing, Thrust
140 1503	Heat Shield
140 1504	Housing, Exhaust
140 1505	Housing, Lutake
140 1506	Housing, Intermediate
140 1507	Impeller
140 1508	Insulation
1A0 150A	Nose Piece
180 150B	Ring, Nozzle
120 150C	Packing
180 1500	Screen, Intake
1A0 150E	Seal
1A0 150F	Shaft
1AU 150G	Turbine
140 150H	Cooler, Arter (Intake Air)
1402000	AIR STARTING SYSTEM
1402010	Air Banks
140 20 20	Air Reducers
1402030	Air Start Check Valves
1A0 2040	Air Start Distributing Valves
1A02050	Piping
1802060	Valves
1A0 20 70	Hotor
140 207A	Lubricator
1403000	BEGINE GROUP, BASIC
1803010	Base, Engine
1803011	Poundation Bolt
1403012	Mount, Mesilient
1403020	Block, Engine
1403021	Cap, Bearing
140 3022	Plate, END Pront
1A0 30 23	Plate, END Rear
1AU 3024	Plywheel Cover
1403025	Gear Cover, Front
1203026	Gear Cover, Rear
1A03027	Cover, Wand Hole
1403030	Breather, Crankcase
1A03031	Element
1403032	Screen
1A0 3040	Crankcase
	Cover, Hand Hole
1403041	
140 3050	Litting Bracket
	Litting Bracket Mount, Engine

1A00000 DIESEL ENGINE (Continued)

-	1204000	CARSHAFT GHOUP	1406000	CRABKSHAPT GROUP
	1404010	Belance Sheft Assembly	1406100	Crankshaft Assembly, Single
	1404011	Plate, Adapter	1406101	Crankshaft ·
	1404012	Shaft, Balance	1406102	Gear
	1404013	Descing	1206103	Pulley
	1404014	Bearing, Thrust	1406104	Seal, Oil, Front
	1404015	Counterweight	1406105	Seal, Oil, Rear
	1804016	Gear	1406106	Sprocket
	1404020	Casshaft Assembly	1A06200	Bearings, Main
	1404021	Plate, Adapter	1406201	Bearing, Main, 1
	1804022	Bearing	1406202	Bearing, Main, 2
	1404023	Bearing, Thrust	1406203	Bearing, Main, 3
	1404024	Canshaft	1406204	Bearing, Main, 4
	1404025	Counterweight	1406205	Bearing, Main, 5
	1104026	Gear	1406206	Bearing, Main, 6
	1404030	Canshaft, Left Hand Assembly	1406207	Bearing, Main, 7
	1404031	Plate, Adapter	1406208	Bearing, Main, 8
	1404032	Bearing	1406204	Bearing, Main 9
	1404033	Bearing, Thrust	1A0620B	Bearing, Main 10
	1404034	Camshaft	1A0 620C	Bearing, Main 11
	1404035	Counterweight	180620D	Bearing, Main 12
	1404036	Gear	180620E	Bearing, Main 13
	1404040	Camshaft, Right Hand, Assembly	140620F	Bearing, Main 14
	1404041	Plate, Adapter	140 6 2 0 G	Bearing, Main 15
	1404042	Bearing	1A0620H	Bearing, Main 16
	1404043	Bearing, Thrust	1A0 6 2 0 J	Bearing, Main Thrust
	1404044	Canshaft	1406300	Crankshaft, Lower Assembly
	1404045	Counterweight	1406301	Crankshaft
	1404046	Gear	1406302	Gear
-	1405000	CONNECTING HOD ASSY	1406103	Seal, Oil, Pront
	1405010	Connecting Bod	1406304	Seal, Oil, Rear
	1405011	Bearing	1406305	Sprocket
	1405012	Bearing Cap	1406400	Bearing, Main, Lover
	1405013	Bolt	1806401	Bearing Bain 1 Lover
	1405014	Crosshead	1406402	Bearing Main 2 Lower
	1405015	Jet	1406403	Bearing Main 3 Lower
	1405016	Piston Pin Rushing	1406404	Bearing Main 4 Lover
	1405017	Pistos Rod	140 6405	Bearing Main 5 Lover
	1405018	Nozzle, Spray	1400400	Bearing Main 6 Lower
	1405050	Connecting Rod Assy Upper	1406407	Rearing Main 7 Lover
	1405051	Connecting Rod	1406408	scaring Main 8 Lower
	1405052	Bearing	140 540A	Bearing, Main 9 Lover
	1405053	Cap, Bearing	1406408	Bearing, Main 10 Lover
	1405054	Bolt	140 640C	Bearing, Main 11 Lower
	1405055	Crossbead	140640D	Bearing, Main 12 Lower
	1405056	yut	1A0640E	Bearing, Main 13 Lover
	1405057	Bushing, Piston Pin	1A0640P	Bearing, Main 14 Lover
	1405058	Bod, Piston	140640G	Bearing, Main 15 Lower
	140505A	Mozzle, Spray	140 6408	Rearing, Bain 16 Lover
			1406403	Bearing, Main Thrust Lover

			1408200	Liner, Integral Type
			1408201	Liner 1
	1200000	Crankshait Upper, Assembly	1408202	Liner 2
	1406501	Crankshaft	1408203	Liner 3
	1406502	Gear	140 8 204	Liner 4
	1406503	Sprocket	1408205	Liner 5
	1406600	Bearing Main Upper	1408206	Liner 6
	1406001	Bearing Main 1 Opper	1408207	Liner 7
	1406602	Bearing Main 2 Upper	1403208	Liner 8
	1406603	Bearing Main 3 Upper	14082UA	Liner 9
	1406604	Bearing Main 4 Opper	1408208	Liner 10
	1406605	Bearing Main 5 Upper	1AJ820C	Liner 11
	1406006	Bearing Main 6 Upper	1AUH 20D	Liner 12'
	1406607	Bearing Main 7 Upper	140820E	Liner 13
	140 0 6 08	Bearing Sain 8 Opper	1A0820F	Liner 14
	140660A	Bearing, Main 9 Upper	1408206	Liner 15
	140660B	Bearing, Main 10 Upper	1406208	Liner 16
	140660C	Bearing Main 11 Upper	1403300	Liner Wet Type
	1406600	Bearing, Main 12 Upper		Liner 1
	140660E	Bearing, Main 13 Upper	1408301	
	140660P	Bearing, Main 14 Upper	1408302	Liner 2
	1406606	Bearing, Main 15 Opper	1408303	Liner 3
	140660H	Bearing, Main 16 Upper	1808304	Liner 4
	1A0660J	Bearing, Main Thrust Upper	1408305	Liner 5
_	1407000	CYLINDER HEAD GROUP	1408306	Liner 6
	1407010	Cylinder Head Assy	1408307	Liner 7
	1407011	Tube, Injector, Copper	1408308	Liner 8
	1407012	Cover, Cylinder Head	1408304	Liner 9
	1407013	Head, Cylinder	1A0830B	Liner 10
	1407014	Guide, Valve	1AU830C	Liner 11
	1407015	Guide, Valve Bridge	TAUSJOD	Liner 12
	1407016	Valve, Relief	140430P	Liner 13
	1407017	Valve, Test	1A0830P	Liner 14
	1407018	Seat, Exhaust Valve	140830G	Liner 15
	1407014	Seat, Intake Valve	1A0830H	Liner 16
	140701B		1110000	CYLINDEA VALVE OPERATING GRAS GROUP
	140701C	Spacers, Tappet (Exhaust) Spacers, Tappet (Intake)	1410010	Rod Assembly, Push
	140701D		1410011	Follower
	A	Tappets, Valve (Exhaust)	1410012	kod, Push
_	140701E	Tappets, Valve (Intake)	1410013	Spring, Push Rod
	1408000	CILINDER LINER GHOUP	1410014	Seat, Push Rod Spring
	1808100	Liner, DRY Type	1210020	Rocker Lever Assembly
	1408101	Liner 1	1410021	Bracket, Rocker Lever
	1808102	Liner 2	1410022	Bushing, Rocker Lever
	1408103	Liner 3	1410023	Rocker Lever, Injector
	1408104	Liner 4	1410024	Bocker Lever, Intake Valve
	1408105	Liner 5	1410025	Rocker Lever, Exhaust Valve
	1408106	Liner 6	1410026	Rocker Lever, Left Hand
	1408107	Liner 7	1210027	Bocker Lever, Bight Hand
	1408108	Liner 8	1410028	Lifter, Hydraulic
	1408 10A	Liner 9	1410030	Lifter, Mechanical
	1AU810B	Liner 10	1110031	Valve Bridge
	1408100	Liner 11	1410032	Spring, Valve Bridge
	140810D	Liner 12	1410040	Valves
	140410E	Liner 13	1410041	Intake Valve
	10810F	Liner 14 . 💭	1410042	Spring, Intake Valve
	1408106	Liner 15 CO	1410043	Valve, Exhaust
	140810H	Liner 16	1410044	Spring, Exhaust Valve
			1210045	Valve Locks
			12,0043	

-> 14	11000	BLECTHICAL STARTING SYSTEM
14	11010	Batteries
14	11011	Cable, Battery
14	11020	Generator/Alternator
14	11021	Brushes
1 14	11022	Pields
14	11023	Botor
1_ 14	11024	Bearings
14	11030	Starter
14	11031	Brushes
14	11032	Fields
14	11033	Rotor
14	11034	Bearings
14	11040	Starting Contactor
14	11041	Coil
14	11042	Contact
14	11050	Voltage Regulator
14	11060	Wiring
14	11200	Bydraulic Starting System
- 1A	12000	RIGINE CONTROL GROUP
14	12010	Governor, hydraulic
14	12020	Governor and lachometer, Hydrauli
14	12030	Governor, Mechanical
14	12040	Governor and Tachometer,
14	12050	Mechanical Governor, Overspeed
14	12060	Sharting Assembly, Injection Coetrol
14	12061	Bearing
14	12062	Clevis Pin
14	12063	Screw, Microseter Adjusting
14	12064	Shaft
14	12065	Springs
14	12066	Throttle .
13	12067	Yoke
14	12070	Overspeed Trip
14	12080	Fneumatic Control
14	12100	Reversing Mechanism
14	12110	Tachometer Drive
→ 14	13000	ENGINE TURNING GEAR GROUP
14	14000	BIHAUST SYSTEM
14	14010	Pltovs
1 14	14030	Expansion Joints
14	14030	Lagging
14	14040	Manicold
1 14	14050	Mufflers
14	14060	Piping
14	14070	Valves
14	15000	PLIBHEEL AND RING GRAB GROUP
14	15010	Coupling, Flexible
1 14	15011	Spring Packs

1A16000	PRESE WATER SYSTEM
1A16010	Expansion Tank
₩16020	Piping
1A16030	Pusp, Fresh Water
1416031	Bearing
1A16032	Casing
1416033	Impeller
1416034	Packing/Seal
1416035	Glaud, Packing
1416036	Shatt
1A16037	Sleeve, Shaft
1416038	Rings, Wearing
1416040	Drive Gear Pump
1416050	Temperature Regulator
1A16051	Thermostatic Element
1A16060	Thermostats
1416070	Valves
1417000	PUEL OIL AND INJECTION GROUP
1417010	Pilters
1417020	Puel Oil Lines
1417030	Pump, Puel Oil
1417031	Bearing
1417032	Bushing
1417033	Casing
1417034	Gear
1417035	Packing/Seal
1417036	Gland, Packing
1417037	Shaft
1417040	Fuel Oil Riser
1417050	Injector /Unit/
1417060	Nozzles, Injection
1817070	Fump, Injection
1417080	Hanitold
1417100	Block, Metering
1417110	Piping
1A17120	Valve, Relief
1A17130	Strainer
1417140	Block, Transfer
1417150	Valves
1418000	GEAR GROUP
1418010	Accessory Drive Gear
1418020	Blower Drive Gear
1418030	Camshaft ldler Gear
1418040	Governor and Tachometer Drive Gear
1A18050	Pump, Drive Gear
► 1A20000	BEAT EXCHANGER GROUP
1420010	Cooler, Fresh Water
1420011	Zinc
1420020	Cooler, Inner
1820021	Zinc
1A20030	Reel Cooler
1A20031	2inc
1420040	Lute Oil Cooler
1A20041	Zinc

	1421000	INSTHUMENT GROUP
	142 1010	Alaras
	142 10 20	Gages
	1821030	Pyrometers
	1421040	Tachometer
	1821041	Cable
	142 1050	Thermocouples
	1421060	Thermometers
4	1421070	Tuling
	142 1080	Valves
	- 1A22000	LUBRICATING OIL SYSTEM
	1422010	filter
	1A22020	Heater
	1422030	Pump, Lube Oil
	1422031	Bearing
	1422032	Bushing
	1A22033	Casing
	1422034	Geat
	1422035	Packing/Seal
	1422036	Gland, Packing
	1422037	Shaft
	1A22038	Sleeve, Shaft
	1822040	Pump, Lube Oil Scavenging
	1422041	Casing
	1422042	Gland, Packing
	1822043	Rotor
	1422044	Shaft
	1422050	Manifold
	1422060	Piping
	1422070	Regulator
	1A22030	Valve, Belief
1	1A22100	Separator
-	14-2110	Strainer
	1422120	Tutes, Oil Supply
-	1A22130	Valves
	- 1A23000	PISTON ASSY
П	1A23010	Carrier Assy
Ш	122 30 20	Piston, Dummy
	1423030	Piston /Less Bings/
П	1423040	Pin, Piston
11	1A23050	Bushing, Piston Pin
	1A23060	Cap, Piston Pin
П	1A23070 1A23080	Ring, Compression
		Ring, Expander
Sec.	1A23100 1A23110	Ring, Oil Control
,-,	1824000	Nozzle, Spray SAL1 WATER SYSTEM
	1A24010	Piping
had	1424020	Pump, Salt Water
	1424021	Bearing
1	1424022	Casing
L	1824023	Impeller
	1424024	Packing/Seal
H	1424025	Gland, Packing
П	144026	Shaft
	1424027	Sleeve, Shatt
17	1124028	Winys, Wearing

1424030	Pump, Drive Gear
1424040	
1424050	Valve, Regulating Trap, Sand
124060	Strainer
1424070	Valves
1424080	Zinc
1424100	Pump, Salt Water Booster
1A25000 1A25010	TRANSMISSION / BEVERSE AND REDUCTION GEAR/ Bearing
1825020	Coupling
1425030	Clutch, Disc
1425040	Driving Assy
1425050	Gear, Forward
1425060	Gear, Idler
1425070	Gear, Reverse
1825080	Housing Assy
1425100	Pinion, Forward
1425110	Pinion, Reverse
1825120	Plate, Back
1425130	Plate, Floating
1425140	Plate, Front
1425150	Seal, Oil
1425160	Shaft, Counter
1125170	Shaft, Idler
1425180	Shaft, Operating
1425200	Shaft, Reverse
1425300	Cooler, Lube Oil (Reduction Gear)
1426000	VERTICAL DRIVE
1426010	Bearing, Thrust, Lower
1426020	Bearing, Thrust, Upper
1426030	Shaft, Flexible Coupling
1426040	Bings, Laminated
1426050	Lockplates
1426060	Nozzles
1426070	Pinion, Lower
1426080	Pinion, Opper
1426100	Pinion, Shaft
1226110	Spline, Upper
1426120	Spline, Lower
1227000	DAMFENER, VIBRATION
1A27100	Pics
1427101	Bushing
1427102	Spider
1427103	Casing

1400000	ENGINE DIESEL .		
1403000	ENGINE GROUP, BASIC		
1403010	Base, Engine		
1403011	Youndation Bolt		
1403012	Mount, Resilient	-	
1403020	Block, E. jine	1205016	Piston Pin Bushing
1403021	Cap, Begring	1405017	Piston Rod
1403022	Plate, IND Front	1405018	Nozzle, Spray
1403023	Plate, END Rear	1405050	Connecting Rod Assy Upper
1A03024	Plywheel Cover	1805051	Connecting Rod
1403025	Gear Cover, Front	1205052	Bearing
1403026	Gear Cover, Rear	1405053	Cap, Bearing
1403027	Cover, Band Bole .	1805054	Bolt
1403030	Breather, Crankcase	1405055	Crosshead .
1403031	Elezent	1405056	Nut
1403032	Screen	1405057	Bushing, Piston Pin
1403040	Crankcase	1205058	Rod, Piston
1403041	Cover, Band Hole	140505A	Nozzle, Spray
140 3050	Listing Bracket /	1206000	CRANKSHAFT GROUP
1403060	Hount, Enjine	1406100	Crankshaft Assembly, Single
1A0 3070	Samp and a second second second	1406101	Crankshaft
104000	CAMSEAFT GROUP	1406102	Gear
1404010	Balance Shaft Assembly	1406103	Pulley
1404011	Plate, Adapter	1406104	Seal, Oil, Front
1404012	Shaft, Balance	1406105	Seal, Oil, Rear
1404013	Bearing	1406106	Sprocket
1404014	Bearing, Thrust	1106200	Bearings, Main
140 40 15	Counterweight	1406201	Bearing, Main, 1
1104016	Gear	1406202	Bearing, Main, 2
1404020	Carshaft Assembly	1106203	Bearing, Main, 3
1404021	Plate, Adapter	1406204	Bearing, Main, 4
1404022	Bearing	1406205	Bearing, Main, 5
1804023	Bearing, Thrust	1106206	Bearing, Main, 6
1104024	Caushaft	1106207	Bearing, Main, 7
1404025	Counterveight	1106208	Bearing, Main, 8
1104015	Gear Manager Manager	1406204	Bearing, Main 9
1404030	Caushaft, Loft Hand Assembly	1A06201 1A06202 1A06203 1A06204 1A06205 1A06206 1A06207 1A06208 1A0620A 1A0620B	Bearing, Main 10
1404031	Flate, Adapter	1A0 620C	Bearing, Main 11
1104032	Bearing	1A0620D	Bearing, Hain 12
1404033	Bearing, Thrust	1A0620E	Bearing, Mais 13
1404034	Canshaft	1A0620F	Bearing, Main 16
1404035	Counterweight	1306206	mearing, Main 15
1404036	Gear	1406208	Bearing, Main 16
1404040	Caushaft, Right Hand, Assembly	1106203	Crankshaft, Lower Assembly
1204041	Plate, Adapter	1406300	
1404042	Bearing	1106301	Crankshaft
1404043	Bearing, Thrust	1406302	Seal, Oil, Front
1404044	Camshaft	1406303	Seal, Oil, Rear
1404045	Counterweight	1406304	
1404046	Gear	1406305	Sprocket
1405000	CONNECTING HOD ASSY		
1405010	Connecting Rod		
1405011	Bearing		acture for indices extracted
1405012	Bearing Cap		NC Research Publication

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1405015

MAIN PROPULSION STSTERS, DIRECT, 645 TURBINE, STREE GATES TREINE DIRECT

	INCINE DIESET			
1406400	Bearing, Main, Lower			
1206401	Bearing Bain 1 Lower			
1406402	Bearing Main 2 Lover			
106403	Bearing Main 3 Lower			
106404	Bearing Main 4 Lover			
40 6405	searing Main 5 Lower	140701B	Spacers, lappet (Exhaust)	
400400	Searing Main 6 Lower	140701C	Spacers, Tappet (Intake)	
406407	Rearing Main 7 Lower	140701D	Tappets, Valve (Exhaust)	
A06408	Bearing Main 8 Lower	140701E	Tappets, Valve (Intake)	
400404	Bearing, Main 9 Lover	1408000	CYLINDER LINER GROUP	
40640b	Bearing, Main 10 Lower	1208100	Liner, DRY Type	
40640C	Bearing, Main 11 Lover	1408101	Liner 1	4006
A3640D	Bearing, Main 12 lower	1408102	Liner 2	
A0640E	Bearing, Main 13 Lower	1408103	Liner 3	
AU 640F	Bearing, Main 14 Lover	1408104	Liner 4	
406400	Searing, Main 15 Lower	1408105	Liner 5	
40640E	Bearing, dain 16 Lover	1408106	Liner 6	
40 6 40J	Bearing, Main Thrust Lover	1408107	Liner 7	
100000	Crankshait upper, Assembly	1406108	Liper 8	
106501	Crankshaft	1208104	Liner 9	
106502	Gear	1408108	Liner 10	
106503	Sprocket	1408100	Liner 11	
106600	Bearing Main Upper	1408100	Liner 12	
106001	Bearing Main 1 Cpper	140810E	Liner 13	
A06602	Bearing Main 2 Upper	140810F	Liner 14	
406603	Bearing Main 3 Upper	1408106	Liper 15	
106604	Bearing Main 4 Opper	1408108	Liner 10	
106605	Bearing Sain 5 Upper	1208200	Liner, Integral Type	
106606	Bearing Main 6 Upper	1408201	Liner 1	
A06607	Bearing Main 7 Upper	1408202	Liner 2	
406608	Bearing Main 8 Upper	1408203	Liner 3	
106601	Bearing, Main 9 Upper	1408204	Liner 4	
40660B	Bearing, Main 10 Upper	1408205	liner 5	
10660C	Bearing Main 11 Upper	1408206	Liner 6	
10660D	Bearing, Main 12 Upper	1408207	Liner 7	
40660E	Bearing, Main 13 Upper	1403208	Liner 8	
40660P	Bearing, Main 14 Upper	1408204	Liaor 9	
10660G	Bearing, Main 15 Opper	1108208	Liner 10	
10660R	Bearing, Main 16 Upper	1A0820C	Liner 11	
A0660J	Bearing, Bain Thrust Upper	1A0820D	Liner 12'	,
107000	CYLINDER HEAD GROUP	140820E	Liner 13	
407010	Cylinder Head Assy	140820F	Liner 14	
407011	Tube, Injector, Copper	1408206	Liser 15	
107012	Cover, Cylinder Head	1408208	Liner 16	
407013	/ Head, Cylinder		elses erler	Betantist
A07014	Guide, Valve			
407015	Guide, Valve Bridge		THE ADIT	CODY
1407016	Valve, Relief	DE	CT AVAILARIE	LUP
407017	Valve, Test	KF.	STAVAILABLE	
407018	Seat, Exhaust Valve	UL	AL ALDERSON FORD THE	
A0701A	Seat, Intake Valve			

^{*}EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153.

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MAIN PROPULSION SISTEMS, DIESEL, GAS TURBLAK, MTRS, GNTAS ENGINE DIESEL

	BRGINE DIESEL	
1403300	Liner Wet Type	
1408301	Liner 1	
1408302	Liner 2	
1408303	Liner 3	
1408304	Liner 4	
1408305	Liner 5	
1408306	Liner 6	
1408307	Liner 7	
1408308	Liner 8	
140830A	Liner 9	
1408306	Liner 10	
1408300	Liner 11	
1A0830D	Liner 12	
140 d 30 E	Liner 13	
1AOB3GP	Liner 14	
1A0830G	Liner 15	
1A0830H	Liner 16	
1410000	CYLINDES VALVE OPERATING GRAS GROUP	1A23000 PISTON ASSY
1A10010	Rod Assembly, Push	1A23010 Carrier Assy
1410011	Follower	1A23020 Piston, Dummy
1A10012	kod, Push	1A23030 Piston /Less Rings/ 1A23040 Pin, Piston
1A10013	Spring, Push Bod	1123050 Bushing, Piston Pin
1410014	Seat, Push Rod Spring	1423060 Cap, Piston Pin
1A10020	Rocker Lever Assembly	1A23070 Ring, Compression
1410021	Bracket, Hocker Lever	1A23080 Ring, Expander
1110022	Bushing, Rocker Lever	1A23100 Ring, Oil Control
1A10023	Rocker Lever, Injector	1A23110 Nozzle, Spray
1410024	Rocker Lever, Intake Valve	
1410025	Rocker Lever, Exhaust Valve	
1410026	Rocker Lever, Left Hand	\$200 AT 100 BE 1425
1410027	Rocker Lever, Right Hand	
1A10028	Lifter, Hydraulic	
1410030	Lifter, Bechanical	
1210031	Valve Bridge	
1210032	Spring, Valve Bridge	
1110040	Valves	
1410041	Intake Valve	
1410042	Spring, Intake Valve	
1410043	Valve, Exhaust	
1110044	Spring, Exhaust Valve	

^{*}EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153.

	AUXILIARY SYSTEMS, BUGINERALUG	A 105000	COMMECSING BOD ASSI
A 100000	ENGIPE, DIESEL, SELPS SERVICE GENERATOR	A 105010	Consecting Rod
A103000	ENGINE GROUP, BASIC	A 105011	Dearing
A 103010	Base, Engine	A 105012	Bearing Cap
A 103011	Foundation Bolt	A 105013	Bolt
A103012	Hount, kesilient	A 105014	Crosshead
A 103020	Block, Engine	A 105015	Sut
A 103021	Cap, Bearing	A 105016	Piston Pin Bushing
A103022	Plate, BND Pront	A 105017	Piston Rod
A 103023	Plate, END Bear	A 105018	Mozzle, Spray
A 103024	Plywheel Cover	A 105050	Connecting Rod Assy Opper
1103025	Gear Cover, Front	A105051	Connecting Rod
A 103026	Gear Cover, Rear	A 105052	Bearing
A 103027	Cover, Hand Hole	A 105053	Cap, Bearing
A103030	Breather, Crankcase	A 105054	Bolt
A103031	Blesent	A105055	Crosshead
A 103032	Screen	A 105056	Nut .
A 103040	Crankcase	A105057	Bushing, Piston Pin
A 103041	Cover, Hand Hole	A105058	Rod, Piston
A103041	Lifting Bracket	A10505A	Nozzle, Spray
A103060	Mount, Engine	A106000	CRANKSHAPT GROUP
		A106 100	Crankshaft Assembly, Single
A 103070	Sump	A 106 101	Crankshaft
A 103164	Pump, Cil Injection	A106102	Gear
A104000	CAMSHAPT GROUP	A 106 103	Pulley
A 104010	Balance Shaft Assembly	A 106 104	
A 104011	Plate, Adapter	A 106 105	Seal, Oil, Pear
A 104012	Shaft, Balance	A 106 106	Sprocket
A104013	Bearing	A106200	Bearings, Main
A 104014	Bearing, Thrust	A106201	Bearing, Main, 1
A104015	Counterweight	A106202	Bearing, Sain, 2
A 104016	Gear	A106203	Bearing, Bain, 2
A 104020	Canshaft Assembly		Bearing, Main, 3
A 104021	Plate, Adapter	A 106204	Bearing, Main, 4
A104022	Bearing	A106205	Bearing, Main 5
A 104023	Bearing, Thrust	A 106206	Seal, Oil, Front Seal, Oil, Bear Sprocket Bearings, Hain Bearing, Hain, 1 Bearing, Bain, 2 Bearing, Bain, 3 Bearing, Hain, 4 Bearing, Bain, 5 Bearing, Bain, 6 Bearing, Bain, 7 Bearing, Hain, 8 Bearing, Hain, 8
A 104024	Camshaft	A 106 207	Bearing, Sain, 7
A104025	Counterweight	1106208	Bearing, Main, 8
A 104026	Gear .	A 10620A	pearing, main,
▲104030	Casshaft, Left Band Assembly	110620B	Bearing, Main, 10
A104031	Plate, Adapter .	110620C	Bearing, Hain, 11
▲104032	Bearing	A 10620D	Bearing, Bain, 11 Bearing, Bain, 12 Bearing, Bain, 13
A104033	Bearing, Thrust	A10620E	
A104034	Cassbaft	A 106 20P	Bearing, Main, 14
A104035	Counterweigut	A 106 20G	Bearing, Main, 15
A104036	Gear	A 10620B	Bearing, Main, 16
A 104040	Camshaft, Right Head, Assembly	11063 6 J	Bearing, Main Thrust
A 104041	Plate, Adapter	A 106 300	Crankshaft, Lover Assembly
A 104042	Bearing	A 106301	Crankshaft
A 104043	Bearing, Thrust	A 106302	Gear
A 104044	Casshaft	A 106 303	Seal, Oil, Front
A 104045	Counterweight	A 106 304	Seal, Oil, Bear
		A 106305	Sprocket

^{*}EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153. A-11

	AUXILIARY SYSTEMS, ENGINEERING				
	ENGINE DIESEL, SHIPS SERVICE GENERATOR				
A106400			A108000	CATINDES T	
	Bearing, Hain, Lower		A108160	Liner, DR	I Type
1106401	Bearing Main 1 Lover		A 108 101	Liner	1 mailtes in
1106402	Bearing Main 2 Lover		A108102		2
1106403	Bearing Main 3 Lover	accepted.	A 108 103	Liner	LANCE LAN
A 106404	Bearing Main 4 Lover	>	A 108 104	Liner	sulpet ora
1106405	Bearing Main 5 Lover	0	A 108 105	Liner	pulsant or
A 106406	Bearing Main 6 Lover	0	A 108 106	Liner	5 5 524 1 5 54
A 106407	Bearing Main 7 Lower	C	A 108 107	Liner	an use
A106408	Bearing Main 8 Lover	DESCRIPTION OF STREET	A 108 108	Liner !	seas trader
1 10640A	Bearing, Main 9 Lover	LL	A108 10A	Liner !	
A 10640B	Bearing, Main 10 Lover	55	A10810B	Liner	10
110640C	Bearing, Main 11 Lower	VAILABI	A 108 10C	Liner	11
A10640D	Bearing, Main 12 Lover		A 108 10D	Lirer	12
A 10646E	Bearing, Main 13 Lower		A 108 10E	Liner 1	13
A10640P	Bearing, Bain 14 Lower	V	A 108 10F	Liner 1	14
A10640G	Bearing, Main 15 Lower		A 108 106	Liner 1	15
A 10640H	Bearing, Main 16 Lover	4	A108 10H		16
A 10640J	Bearing, Main Thrust Lower		A 108200		egral Type
A 106500	Crankshaft Upper, Assembly	—	A108201	Liner 1	
A 106501	Crankshaft	S	A 108202	Liner 2	
A 106502	Gear	H	A 108203	Liner 3	
1106503	Sprocket	1	A108204	Liner 4	
A 106600	Bearing Main Upper		A108205	Liner 5	
A106601	Bearing Main 1 Upper		· 108206		
A106602	Bearing Main 2 Upper		A 108207		
1106603	Bearing Main 3 Upper	0/66		Liner 7	
A 106604	Bearing Main 4 Upper		A 108208	Liner 8	
A106605	Bearing Main 5 Upper		1108201	Liner 9	
			A 108 20B		0.000
1106605	에 보는 경기 가게 하게 이 기계를 되면 되어 하셨습니다.		A10820C		1
A106607			A 10820D		2
A106608	Bearing Bain 8 Upper		A10820B		3
A 10660A	Bearing, Main 9 Upper		A10820P	Liner 1	4
A 10660B	Bearisg, Main 10 Upper		110820G	Liner 1	5
▲10660C	Bearing, Main 11 Upper		A10820H	Liner 1	6
1106600	Bearing, Main 12 Upper		A108300	Liner Wet	Type
1108601	Bearing, Main 13 Opper		A108301	Liner 1	
A10660F	Bearing, Main 14 Opper		1108302	Liner 2	
110660G	Bearing, Main 15 Upper		A108303	Liner 3	
₹10660E	Bearing, Main 16 Upper	4/4	▲108304	Liner 4	
110660J	Bearing, Main Thrust Upper	author a	A 108305	Liner 5	
A 107000	CYLINDER HEAD GROUP		1108306	Liner 6	
A 107010	Cylinder Head Assy		A108307	Liner 7	
A107011	Tube, Injector, Copper		A108308	Liner 8	
▲ 107012	Cover, Cylinder Head		A10830A	Liner 9	
.A 107013	Head, Cylinder		▲10830B	Liner 1	O particular to the
A107614	Guide, Valve		▲10830C	Liner 1	1
A 107015	Guide, Valve Bridge	SECULIA SECULIA	▲10830D	Licer 1	2
A 107016	Valve, Belief		110830E	Liner 1	3
A107017	Valve, Test		A 10830P	Liner 1	
A 107018	Seat, Exhaust Valve		▲10830G	Liner 1	5
110701A	Seat, Intake Valve		A10830H	Liner 1	6

^{*}EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153.

ASSILLARY SISTERS, ENGINEERING BRGINS, DIESEL, SELPS SERVICE GENERAL OF

A110000 CYLINDER VALVE OPERATING GRAE GROUP A110010 Rod Assembly, Push A110011 Pollover A110012 Rod, Push A110013 Spring, Push Rod A110014 Seat, Push Rod Spring A110020 Bocker Lever Assembly Bracket, Rocker Lever A110021 A110022 Bushing, Rocker Lever A 110023 Rocker Lever, Injector A 110024 Rocker Lever, Intake Valve A110025 Rocker Lever, Exhaust Valve A110026 Rocker Lever, Left Hand A110027 Rocker Lever, Right Hand A110028 Lifter, Hydraulic A110030 Lifter, Mechanical A 123000 PISTON ASSY A 123010 Carrier Assy A 123020 Piston, Dunny A123030 Piston /Less Bings/ A123040 Pin, Piston A123050 Bushing, Piston Pin A123060 Cap, Piston Pin A123070 Ring, Compression A123080 Ring, Expander A123100 Bing, Oil Control 4123110 Bozzle, Spray

^{*}EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153.

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1000000 MAIN PROPULSION SYSTEMS, DIRSEL, GAS
1800000 GENERATORS, PROPULSION
1801000
         ARMATURE (DC)
1801010
          Commutator
1801020
          Coils
1801030
           Banding
1802000 PIELD STRUCTURE (DC)
1B02010 Coils, Shunt
          Coils, Series '
1802020
1802030
          Interpoles
1802040
          Coils, Compensating
1803000 BROSH ASSEMBLY (DC)
1803010 Holder, Brush
1803020
           Brushes
1B03030
          Springs, Brush
1804000
         MOTOR (AC)
1804010
           Windings
1804020
          Rings, Slip
1805000
         STATOR (AC)
1805010
          Windings
1805020
           Bolder, Brush
1805030
           Brushes
1805040
          Springs, Brush
          RECHARICAL COMPONENTS
1810000
1810010
           Bearings
1810020
           Journals
1810030
           Seals, Oil
1310040
           Couplings
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*EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

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10000000 MAIN PROPULSION SYSTEMS, DIBSEL, GAS
1000000 HOTORS, PROPULSION
1001000
          ARMATORE (DC)
1001010
            Consutator
1001020
            Coils
100 1030
            Banding
1002000
          FIRLD STRUCTURE (DC)
1002010
            Coils, Shunt
1002020
            Coils, Series
1002030
            Interpoles
            Coils, Compensating
1002040
1003000
           BROSH ASSEMBLY (DC)
1003010
            Holder, Brush
1003020
1003030
            Springs, Brosh
          ROTOR (AC)
1004000
1004010
            Windings
1004020
            Rings, Slip
1005000
          STATOR (AC)
1005010
            apaibaiw
1005020
            Holder, Brush
1005030
1005040
            Springs, Brush
1010000
          MECHANICAL COMPONENTS
1010010
            Bearings
1010020
            Journal
1010030
            Seals, Oil
1010040
            Couplings
```

*EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

MAIN PROPULSION SYSTEMS, DIESEL, GAS TORBINE, HTRS, GHTRS

► 1F28000	PURIFIER PUEL OIL DELAVAL	1F28050	Motor, D C Purifier Fuel Oil Delaval
1126010	Spindle Assembly, Bowl	1128052	Bells, END or Brackets, END
128011	Bearing, Hall	11/28053	Heaters
1F28012	Spindle, Bowl	1F28054	Brush Rigging, Assembly
1F28013	Plate, Cover	1128055	Wonding, Series
1128014	Ring, Flexible	1F28056	Winding, Shunt
1828015	Cover, Protective	1128057	Winding, Commutating
1123010	Bearing, Top Plate	1F28058	Leads
1F28017	Bowl, Assembly	112805A	Boards, Terminal
1F28020	Brake Assembly	1F2805B	1rip, Overspeed
1128021	Plunger, Brake	1F2805C	Pan, Assembly
1F28022	Spring, Brake	1F2805D	Slinger
11128023	Bushing	1F2805E	Bearing Seat, Shart
1128024	"Cap	1F2805F	Binys, Balance
1828025	Lever	1F2805G	Commutator
1F28026	Pad	11280511	Finding, Coil Slot Section
, 1F28027	Spring, Plunger	1F2805J	Winding, Coil BND Turns
1228030	Cover, Frame and Inlet Assembly	1F2805K	Winding, Equalizer
1128031	Ball	1F2805L	Wedges, Slot
1128032	Spring, Ball Check	1F2805H	Panding
1F28033	Plug, Distributing	1F28060	Controller, Puel Oil Purifier Delaval
1228034	Plunger	1228070	Pump, Discharge
1128035	Pump, Drive Gear	1F28080	Pump, Suction
1728036	Tube, Megulating	1728100	Indicator Assembly, Speed
1F28040	Botor, A C Purifier, Puel Oil	1728101	Cas
1228041	Delaval Housing, Bearing	1128102	Cap
1F28042	Bell, END or Bracket END	1F28103	Wheel, Gear
1F28043	Winding, Coil Slot Section	1228104	Shaft
1128044	Winding, Coil END Turns	1128105	Sleeve
1128045	kings, Connection	1228106	Plunger
1128046	Leads	1F28110	Worm, Wheel and Priction Clutc
1128047	Wedges, Slot	128111	Assembly Adaptor, Sleeve
1128048	Boards, Terminal	1228112	Block, Spacer
1F2804A	Beaters	1228113	Block, Priction
1128048	Fan Assembly	1228114	Hub, Priction
1F2804C	Rings, Balance	1228115	Bing, Friction
1F2804D	Rings, END	1228116	Worm and Wheel
112804E	Slinger	1728120	Screw Assembly Bottom
1F2804F	Bearing Seat, Shaft	1F28130	Plate, Bousing, Pump Assembly

BAIN PROPULSION SYSTEMS, DIESEL, GAS TOMBINE, HTMS, GMTRS PORL OIL SERVICE SYSTEM

1230000	PORIFIER, FUEL OIL SHARPLES	1230080
1230010	Bearing Assembly, Spindle	1230081
1730011	Bearing, Ball	1730082
1730012	Clutch, Penale	1230083
1230013	Clutch, Bale	1230084
1230014	Coupling, Flexible	130085
1230015	Spacer	1730086
1230016	Spindle	1230087
1230017	Coupling, Spindle	1230088
1230020	Belt	1730081
1730030	Bowl Assembly	173008B
1730031	Bowl, Boss Sleeve	123008C
1230032	Screw, Discharge	173008D
1230033	Ring, Dam	123008E
1230034	Three Ring	113008F
1230040	Cover Assembly, Bowl	1730100
1730050	Drag Assembly	1130101
1730051	Bushing, Drag	1730102
1730052	Gasket, Drag Housing	1F30103
1230053	Spring. Drag	1730104
1730054	Sasher, Drag	1230105
1730055	Nozzles, Fuel	1130106
1230060	Prane	1230107
1730070	Idler Assembly	1730108
1730071	Bearing, Ball	1730104
1230072	ABM, Idler	1F30 10B
1230073	Pulley, Idler	173010C
1230074	Speing, Idler	1F3010E
		1230102
		1230 10G
		1730108

1230080	Sotor, A. C., Purifier, Puel Oil
1730081	Sharples Bouning, Bearing
1730082	Bell, END or Brackets, END
1230083	Binding, Coil Slot Section
1230084	Winding, Coil END Turns
1F30085	Bings, Connection
1730086	Leads
1230087	Wedges, Slot
1230088	Boards, Terminal
1730081	Beaters
123008R	Pan Assembly
123008C	Binys, Balance
173008D	Rings, END
123008E	Slinger
1F3008F	Bearing Seat, Shaft
1230100	Motor, D. C., Purifier, Puel Cil
1130101	Motor, D. C., Purifier, Fuel Cil Sharples Housing, Bearing
1730 102	Bells, END or Brackets, END
1F30103	Beaters
1730104	Brush Rigging, Assembly
1230105	Winding, Series
1130106	Winding, Shunt
1230107	Tinding, Consulating
1730108	Leads
123010A	Boards, Terminal
1130 10B	Trip, Overspeed
173010C	Pau, Assembly
1F3010E	Bearing Seat, Shaft
1730 10F	Rings, Balance
1730 10G	Commutator
173010H	Winding, Coil Slot Section
1730103	Winding, Coil END Turns
1F30 10K	Winding, Equalizer
123010L	Wedges, Slot
1F30 108	Banding
1730110	Controller, Fuel Oil Puritier,
1230120	Sharples Pump, Fuel Oil Purifier
1230121	Bearing
1#30122	Bushing
1730123	Casing
1230124	Gear
1730125	Packing
1730126	Gland, Packing
1#30127	Coupling, Shart

MAIN PROPULSION SYSTEMS, DIESEL, GAS TURBINE, HTRS, GNTRS LUBRICATING OLL SERVICE SYSTEM

→ 1 G43000	BORILIEN TORE OIT DETAAT	1643050	Botor, D C Purifier Lube Oil
1643010	Spindle Assembly, Bowl	1643052	Bells, END or Brackets, END
1643011	Bearing, Ball	1643053	Heaters
1643012	Spindle, Bowl	1643054	Brush Bigging, Assembly
1643013	Plate, Cover	1643055	Winding, Coil END Turns
1643014	Ring, Flexible	1643056	Winding, Shunt
1643015	Cover, Protective	1643057	Binding, Commutating
1643016	Bearing, Top Plate	1643058	Leads
1643017	Sleeve, Bearing	1G4305A	Boards, Terminal
1643020	Brake Assembly	164305B	Trip, Overspeed
1643021	Plunger, Brake	1G4305C	Pan, Assembly
1643022	Spring, Brake	1G4305D	Slinger
1643023	Bushing	164305E	Bearing Seat, Shaft
1643024	Cap	1G4305F	Bings, Balance
1643025	Lever	164305G	Commutator
1643026	Pad	G4305H	Winding, Coil Slot Section
1643027	Spring, Plunger	164305L	heages, Slot
1643030	Cover Frame, and Inlet Assembly	1G4305B	Banding
1643031	Ball	1643060	Controller, Motor, Lube Oil
1G43032	Spring, Ball Check	1643070	Purifier Delaval Pump, Discharge
1643033	Plug, Distributing	1643080	Pump, Suction
1643034	Plunger	1643100	Indicator Assembly, Speed
1643035	Pump, Drive Gear	1643101	Cas
1643036	Tube Regulating	1643102	Cap
1G43040	Motor, A C Purifier Lube Oil,	1643103	Wheel, Gear
1643041	Delaval Housing, Bearing	1643104	Shaft
1643042	Bell, END or Bracket END	1643105	Sleeve
1643043	Winding, Coil Slot Section	1643106	Plunger
1643044	Winding, Coil BWD Turns	1643110	Worm, Wheel and Priction Clutch
1G43045	Rings, Connection	1643111	Assembly Adaptor, Sleeve
1643046	Leads	1643112	Block, Spacer
1643047	Wedges, Slot	1643113	Block, Friction
1G43048	Boards, Terminal	1643114	Bub, Priction
1643041	Seaters	1643115	Ring, Priction
164304B	Pan, Assembly	1643116	Worw and Wheel
164304C	Rings, Balance	1643120	Screw, Assembly Bottom
G4304D	Rings, BND	1643130	Plate, Housing, Pump Assembly
1643042	Bearing Seat, Shaft		,,



TAIR PROPULSION SYSTEMS, DIESEL, GAS

-	1644000	PURIPIER, LUBE OIL, SHARP	LES	1644080	Motor & C Parifier Labe Gil
	1644010	Bearing Assembly		1644041	Motor, A C Purifier Lube Oil Sharples Bousing, Bearing
	1644011	Bearing, Ball		1644082	Bell, END or Brackets, END
	1644012	Clutch, Penale		1644083	Winding, Coil Slot Section
	1644013	Clutch, Male		1655085	Winding, Coil SED Turns
	1644014	Coupling, Plexible		1644085	Rings, Connection
	1644015	Spacer		1644086	Leads
	1644016	Spindle		1644087	_Wedges_ Slot
	1644017	Coupling, Spindle		1644088	Boards, Terminal
	1644020	Belt		1644084	Reaters
	1644030	Bowl, Assembly		1644083	Pan, Assembly
	1644031	Bowl, Boss Sleeve		164408C	Rings, Balance
	1644032	Screw Discharge		164408p	Riags, RND
	1644033	hing, Dam		1644083	Slinger
	1644034	Three, Wing		1644087	Bearing Seat Shaft
	1644040	Bowl, Cover Assembly		1644100	
	1644050	Drag Assembly		1644101	Motor, D. C., Purifier, Lube Oil Sharples Housing, Bearing
	1644051	Bushing, Drag		1644 102	Bells, BND or Brackets, BND
	1644052	Gasket Drag, Housing		1644 103	Heaters
	1644053	Spring, Drag		1644 104	Brush Rigging, Assembly
	1644054	Basher, Drag		1644 105	Winding, Series
	1644055	Forsles, Paol		1644 106	Winding, Shunt
	1644060	Prane		1644 107	Binding, Consutating
	1644070	Idler Assembly		1644 108	Loads
	1644071	Bearing, Ball		1644 104	Boards, Terminal
	1644072	Arms Idler		1644 10B	Trip, Overspeed
	1044073	Pelly Idler .		164410C	Pan, Assembly
	1644074	Spring, Idler		1644 10D	Slinger
				1644 10E	Bearing Seat, Shaft
				1644 102	Rings, Balance
				1644 106	Commutator
				1644 10H	Binding, Coil Slot Section
				1644103	Winding, Coil BND Terms
				1644 10K	Finding, Equalizer
				1644 10L	Wedges, Slot
				1644 10H	Randing
				8644110	Controller, Motor, Lube 011
				1644 120	Controller, Hotor, Lube Oil Parifier, Sharpler Pump, Lube, Oil Parifier

BEST_AVAILABLE COPY

Class, facking

Bearing Bushing Casing

1644 126

1644 127

MAIN PROPULSION SYSTEMS, DIRSEL, GAS TURBINE, HTMS, GNTRS SHAPTING, BEAKINGS, PROPELLERS,

► 1h10000	PHOPELLERS		1H10040	Pump, HYD. Var. Delivery, Type Pump, HYD. Vane Type	Piston
1810010	Bub Assembly				
1810011	Dunce Cap		1810051	Plate, Body	
1410012	Pairing Cap		1810052	Plate, Cover	
1810013	Cap, Vol Displacement		1610053	Shaft	
1810014	Gland		1810054	Bings	
1810015	Hut		1ы10055	Vanes - Ward - Factoring	
1810016	Cylinder, Main		1410056	O Rings	
1810017	Pistons		1810057	Stins	
1410018	Thrust Ring Assy		1410058	Gaskets	
1810014	Spider		1810051	Quad hings	
1H1001B	Jaw Bolt		1d1005B	Bearings	
181001C	Cover Plate		181005C	Seals	
181001D	Conn Rod Assy		1810060	Pump, Standby	
181001B	Safety		1910061	Body	
1H1001F	Cross Head		1410062	Head	
181001G	Cross Head Guide		1810063	Gerotor	
181001H	Valve		1610064	Shatt	
1H1001J	Seal Bings		1110065	Сар	
131001L	Slide Block		1210066	Hetainer, Cold	
1#1001M	Guide Block		1810067	Spring, Retainer Collar	
1H1001N	Liner		1810068	Pearing	
1H1001P	Centering Disc		1610061	Reys	
1810010	Slipper		1H100oB	Seals	
181001	Pivot Shoe		101006C	Fin, Retainer Collar	
1#10015	BLEED-OFF Tube Assy		161005D	Gasket	
181001T	Locking Wire		1010002	Scievs	
1810010	Air Seal Flange		1a1006F	Upion Fittings	
1H1001V	Tubing	ADV SUBJECT	1µ10066	Couplings	
1E1001W	Check Valve Assy	T-SEEVED -	, 1H10070	Botor, Pump	1
1610020	Air Seal (Outboard)	Q	1810071	Bearings	ATTENDED.
1810021	Seal ding	,0	1810080	Controller, Notor, Pump	110516
1610022	Housing	STEERES C	1810100	Strainer	21122
1610023	Spring	manual.	1810101	Basket	
1610024	Seal	74	1810102	Gasket	at equality
1810024	Gasket	02	1810110	Pilters	
		4	1410111	Element	
1L10026	Housing Support	2)	1810112	Gasket	
	Cover	4	1810120	Pressure	
1610028	Eolt	7,	1810121	Glass	
161002A	SCIEV	16	1810121	Spap Sing	
1H1002B	Spacer Ring		1810122	Thermometer	
1e1002C	Wire, Locking	2		Valves, Gen.	
1110030	Blade Assy	5	1H1U140		
1/10031	Blade	200		Hose Assy Plex.	
1610032	Sealing Plug	A 9469	1810160	Switch, Pressure	
1810033	O Ring Packing	13.17.18.	1E10170	Coupling, desistive	
1110034	Wear Plate		1810171	Clamps, Hose	
1810035	Shins		1810180	But Oil Tank	
1610036	Dovel		1810181	Sight Glass Gage	
1810037	Rey		1810182	Gage, Pressure	
1810038	Plug		1610193	Switch, Pressure	1
1410034	Hez Head Cap Screw		1610200	Valves, Gen. Bub Oil Tank	
			1810210	Coupling, Flex.	1

	A CONTRACTOR OF THE CONTRACTOR
1610230	Tank, Nub Oil Susp
1810231	Ploat Switch Assy
1810232	Pump-Notor Assy
1610233	Valve, Check
1810240	rloat Switch, Bub Oil Suep TE.
1810241	≱od los
1510242	Ball
1810243	Reach Rod
1810250	Hub Oil Injection Assy
1810251	Coupling
1810252	Sleeve
1810253	Piston
1810254	Packing Assy
1210255	Collecting Hing
1810256	Sapply Ring
1810257	Relief Valve Assy
1810258	Check Valve Assy
181025A	Seal Ring Assy
1810256	Plate
1810260	Pump, Bub Oil
1410241	Startor Coils
1810262	Ball Bearings
1810263	Relief Valve
1410270	Servo Control Unit
1610271	HYD. Cylinder
1810272	Cylinder END Plate
1610273	Cylinder Sleeve
1810274	Piston Assy
1810275	Bearing
1610276 1610277	O Ring Packing O Ring Gaskets
1810277	Bearing Bushing
1810278 181027A	Pitch Indicator Bod
1810278	Synchro Gen
1H1027C	Convecting Bracket
18102/D	Pinion Gear
1#1027E	Micro Switch
1d1027F	Guide Rod
1310276	Cam Follower
1810278	Gear wack
1810273	Actuating Rod
181027K	Actuating Lever
1N1027L	Actuating Pin
1810278	Guide Rings
1H1027N	Connector
1H1027P	Pilot Valve Assy
1810280	Emery. Control Panel
1810281	Valve, Meedle
1810282	Light, Indicator
1810300	Valve, Solenoid
1810301	O Ring PRG.
1810302	BACK-UP Hings Solemoid
1210303	Sear Seal
1810304	Toggle, Switch
1210320	Indicator, Pitch
1810320	Syschro
1810321	Diel & Deister

1810330	Botary Switch
1810340	Lights, Indicator
1810350	Servo Control Unit Housing Assy
1110351	Shafts
1110352	Gears
1810353	Seals
1810354	Bearing Assy
1810355	Block Sliding Assy
1810356	Seal, Retainer
1810357	Limit Switch
1210360	Servo Cost. Unit Botary Joint
1810361	liose
1810370	Servo Cont. Unit Botor
1210371	Bearings
1810360	Servo Cont Unit Hagnetic Brake
1810381	Interlock Switch
1810382	Brake Release Assy (Cont)
1610400	Servo Cont. Unit Brake Release
1810401	Lever ARM
1810410	Servo Cont Unit Synchro
1310420	Servo Cont Unit Hitre Gear
1610430	Engine Boom Control Assy
1810431	Handwheel
1810432	Shaft
1610433	Gears
1810434	Clutch, Disc
1810435	Clutch Sleeve Assy.
1410436	Clutch Spring Bearing
1610437	Pinion
1110440	ENG RM Cont. Bech. Transa. STS.
1610441	Shaft
1610442	Bearing Hanger
1810443	Mitre Gear Unit
1810444	Universal Joint
1810450	ENG. Room Cont. Universal Joint
1210460	Relay Box Assy.
1810470	Valve, Control Air
1810480	Valve, Motair
1810500	Valve, Double Check
1810510	Piping
1610520	Air Filters
1110530	Transmitter, Fuel Rack
1810540 1810550	Assy, Double Gaye Valve, Pilot Air
1810560	Valve, Filot all
1B10580	
1810580	Valve, Shuttle
1810600	
1810610	
1810620	
1810630	Storage, Motion
1810640	Valve, HTD 3-WAY Directional
1810650	Actuator Assy
1810660	Clutch

MAIN PROPULSION STSTEMS, DIESEL, GAS TUNBINE, MTRS, GMTRS TRANSMISSION STSTEMS (GRANS, CLOTCHES, COUPLINGS, ETC)

```
► 1KO 1000
               GRAK, REDUCTION
  1KO 10 10
                Bearing, Anti-Friction
  1801020
                Bearing, Journal
  1KO 10 30
                Bearing, Thrust
  1KO 1040
                Coupling, Flexible
  160 1050
  180 1060
                Gear, Jacking
  180 1070
                Pump, Oil
  180 1080
                Drive, Oil Pump
  160 1100
                Seal, Oil
  180 1110
                Pinion
               Stationary Part (Housing, Oil
Piging, FTC)
CLUTCH, PROPELLER SHAPT
SYNCHAONIZING, POSITIVE ENGAGING
Bearing, Anti-Friction
  160 1120
 1802000
  1KO 20 10
  1KO 2020
                Foaring, Journal
  1K02030
                Control System Part, Electrical
                Control System Part, Hydraulic
  1KO 2040
  1802050
                Control System Part, Mechanical
  1802000
                Seal, Cil
  1K0 2070
                Rotating Part
               Stationary Part(Housing, Oil Piping, Etc)
CLUTCE/COUPLING, HYDRAULIC
  1802000
 1KO 3000
  1803010
                Bearing, Auti-Friction
  1KO 3020
                Bearing, Journal
  1KQ 3Q 3Q
                Control System Part, Electrical
  1K0 3040
                Control System Part, Hydraulic
  1KO 3050
                Control System Part, Mechanical
  180 3060
                Coupling, Flexible
  1K03070
                Seal, Cil
  160 3080
                Rotating Part
                Stationary Part (Housing, Oil
Piring, RTC)
LUICA/ERAKE, PRICTION, MRCH/HTD
NEUMATIC OPERATED REV/MEDUCT GR
Bearing, Auti-Friction
  1803100
 1804000
  1804010
  TK04020
                Bearing, Journal
  1804030
                Bearing, Thrust
  1804040
                Control System Part, Electrical
  1804050
                Control System Part, Hydraulic
  1804060
                Control System Part, Bechanical
                Coupling, Plexible
  1804070
  1804080
                Gear, Jacking
  1KO 4 100
                Pump, Oil
                Drive, Oil Pump
  1804110
  1K04120
                Seal, Oil
                Rotating Part
  1804130
                Stationary Part (Housing, Oil
Piping, RTC)
Compressor, Clutch (Flerible)
  1804140
  1604200
 1805000
               COUPLING, PLEXIBLE, PROPELLER SHAPT
  1805010
                Elastic Elegest
                Splined-Tooth Rlement
  1505020
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A000000 AUXILIARY SISTEMS, ENGINEERING A1000000 ENGINE, DIESEL, SHIPS SERVICE GENERATOR

AIR INTAKE GROUP	A 101508	Insulation
Airbox	A 10 150A	Bose Piece
Draia	A 10150B	king, Nozzle
Cover, Hand Hold	A10150C	Packing
Air Header	A 10 150D	Screen, Intake
Plate, Explosion	A 10 150E	Seal
Air Heater	A 10 150P	Shaft
Body	A 10 150G	Turbine
Plunger .	A102000	AIR STARTING SYSTEM
Pump	A 102010	Air Banks
Springs	A 10 20 20	Air Reducers
Blower, Left Hand, Scavenging Air	A 102030	Air Start Check Valves
Bearing, Radial	A102040	Air Start Distributing Valves
	A 102050	Piping
	A102060	Valves
	- A103000	ENGINE GROUP, BASIC
나는 나는 사람들은 사람들이 가득하게 되었다면 그 사람들이 되었다면 하는데 그 것이 없었다.	A 103010	Base, Engine
Gear, Driven	A 103011	Poundation Bolt
	A103012	Mount, Resilient
	A 103020	Block, Engine
	A 103021	Cap, Bearing
		Plate, BND Pront
		Plate, END Rear
		Flywheel Cover
		Gear Cover, Front
HE 20 HE 20 HE 2 HE 2 HE 2 HE 2 HE 2 HE		Gear Cover, Bear
		Cover, Hand Hole
		Breather, Crankcase
		Blement
		Screen
		Crankcase
		Cover, Hand Hole
10 이번 - 10 10 10 10 10 10 10 10 10 10 10 10 10		Lifting Bracket
		Hount, Engine
		Sump
4 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16		Pump, Oil Injection
	_	CAMSHAPT GROUP
		Balance Shaft Assembly
		Plate, Adapter
		Shaft, Balance
		Bearing
		Bearing, Thrust
		Counterweight
		Gear Caashaft Assembly
		Plate, Adapter
		Bearing
	A 104023	Bearing, Thrust
Heat Shield	£ 104023	beding, intube
	A 404 0 24	Canchaft
Housing, Exhaust	A 104 024	Counterweight
Housing, Exhaust Housing, Intake Housing, Intermediate	A 104024 A 104025 A 104026	Counterveight Goar
	Drain Cover, Hand Hold Air Header Plate, Explosion Air Heater Body Plunger Pump Springs Blower, Left Hand, Scavenging Air Bearing, Radial Bearing, Thrust Cover, END Plate Plate, END Gear, Drive Gear, Drive Gear, Drive Housing Lobe Shaft, Quili Retainer Seal, Oil Blower, Righthand, Scavenging Air Bearing, Radial Bearing, Thrust Cover, END Plate Plate, END Gear, Drive Gear, Dri	Airbox Drain

(Continued)

A 104030	Canshaft, Left Send Assembly	A10620G	Bearing, Hain, 15
A104031	Plate, Adapter	A 10620H	Bearing, Main, 16
A 104032	2 Bearing	A 10620J	Bearing, Main Thrust
A 10403	Bearing, Thrust	1106300	Chankshaft, Lover Assembly
A 104034	Canshaft	A 106301	Crankshaft
A104035	Counterveignt	A 106302	Gear
A104036	Gear	A106303	Seal, Oil, Pront
A 104040	Canshaft, Right Hand, Asjenbly	A 106304	Seal, Oil, Rear
A 104041	그리고 있는 사람들이 얼마나 가장하는 얼마나 하게 하는데 이번 사람들이 살아가 되었다.	A 106305	Sprocket
A 104042	Bearing .	A106400	Bearing, Hain, Lower
A 104043	Bearing, Thrust	1106401	Bearing Hain 1 Lover
A 104044	Caeshaft	A 106402	Bearing Hain 2 Lover
A 104045	Counterweight	A 106403	Bearing Hain 3 Lover
A104046	Gear	A 106404	Bearing Hain 4 Lover
► A105000	CONNECTING BOD ASSY	A 106405	Bearing Hain 5 Lover
A 105010		A 106406	Bearing Hain 6 Lover
A105011		A 106407	Bearing Bain 7 Lower
A105012		A106408	Bearing Main 8 Lover
A105013		1106401	· Bearing, Bain 9 Lower
A 105014		▲10640B	Bearing, Bain 10 Lover
A 105015		A10640C	Bearing, Mais 11 Lower
A 105016		A10640D	Bearing, Bais 12 Lover
A 105017		A 10640E	Bearing, Main 13 Lover
A 105018		A10640F	Bearing, Bain 14 Lower
A105050		A10640G	Bearing, Main 15 Lover
A 105051		A 10640H	Bearing, Mais 16 Lover
A 105052		A10640J	Bearing, Main Thrust Love:
A 105053		A106500	Crankshaft Upper, Assembly
A105054		A 106501	Crankshaft
A105055		A106502	Gear
A 105056		A106503	Sprocket
A105057		A106600	Bearing Bain Upper
A105058		A106601	Bearing Main 1 Upper
		A106602	Bearing Bain 2 Upper
A 105051		A106603	Bearing Main 3 Upper
► A106000		A106604	Bearing Mais 4 Upper
A 106 100		A106605	Bearing Sain 5 Upper
A 106 101		A106606	Bearing Main 6 Upper
A 106 102	AND INTERNATIONAL CONTRACTOR OF STREET, CONTRACTOR OF STREET, CONTRACTOR OF STREET, CONTRACTOR OF STREET, CONT	A106607	Bearing Main 7 Upper
A 106 103		A106608	Bearing Sain & Upper
A 106 104		A10660A	Bearing, Main 9 Opper
A 106 105			
≥ 106 106		A10660B	
▲106200		A10660C	Bearing, Hain 11 Upper
A 10620		A 10660D	Bearing, Hain 12 Upper
A 106 202		A10660E	Bearing, Main 13 Opper
A106203		A10660P	Bearing, Hain 14 Upper
A 10620		A10660G	Bearing, Hain 15 Upper
A10620		A10660H	Bearing, Main 16 Upper
A10620		1106603	Bearing, Bein Thrust Upper
A 106 20			
110620		<u> </u>	
A10620	Bearing, Main, 9	DECT A	VAILABLE CODY

BEST_AVAILABLE COPY

A 10620B A 10620C A 10620B A 10620B A 10620F

-	A 107000	CYLINDER BEAD GROUP	A 108 30A	Libery 19 water remark december 4
	A107010	Cylinder Boad Assy	A10830B	Liner 10
	A 107011	Tube, Injector, Copper	₹10830C	Liner 11
	A 107012	Cover, Cylinder Head	▲10830D	Liner 12
	.A 107013	Bead, Cylinder	A10830E	Liner 13
	A107014	Guide, Valve	▲10830P	Liner 14
	A 107015	Guide, Valve Bridge	▲10830G	Liner 15
	A107016	Valve, Relief	A10830H	Liner 16
	A 107017	Valve, Test	→ A110000	CYLINDER VALVE OPERATING GRAE GROUP
	A 107018	Seat, Exhaust Valve	A110010	Rod Assembly, Push
	2 10701A	Seat, Intake Valve	A110011	Pollover
-	A108000	CYLINDER LINER GROUP	A110012	Rod, Push
	A 108 100	Liner, DRI Type	A110013	Spring, Push Rod
	A 108 101	Liner 1	A110014	Seat, Push Rod Spring
	A108102	Liner 2	A110020	Rocker Lever Assembly
	A 108 103	Liner 3	A110021	Bracket, Rocker Lever
	A 108 104	Liner 4	A110022	Bushing, Rocker Lever
	A 108 105	Liner 5	▲110023	Bocker Lever, Injector
	A 108 106	Liner 6	A110024	Rocker Lever, Intake Valve
	A108107	Liner 7	A110025	Rocker Lever, Exhaust Valve
	A 108 108	Liner 8	A110026	Rocker Lever, Left Band
	A108 10A	Liner 9	A110027	Rocker Lever, Right Rand
	A108 10B	Liner 10	A110028	Lifter, Hydraulic
	A 108 10C	Liner 11	A110030	Lifter, Mechanical
	A10810D	Liner 12	110031	Valve Sciège
	A 108 10E	Liner 13	A110032	Spring, Valve Bridge
	A 108 107	Liner 14	1110040	Talves
	A 108 10G	Liner 15	A 110041	Istake Valve
	A 108 10E	Liner 16	1110042	Spring, Istake Valve
	A 108200	Liner, Integral Type	A110043	Valve, Exhaust
	A 108201	Liber 1	1110044	Spring, Exhaust Valve
	A 108202	Liner 2	A 110045	Valve Locks
	A 108203	Liner 3	→ 1111000	BLECTRICAL STARFING SYSTEM
	▲108204	Liner 4	2111010	Batteries
	A108205	Liner 5	A111020	Generator
	A108206	Liner 6	A111021	Arushes action that is
	A108207	Liner 7	A111022	Pields without Keneral
	▲108208	Liner 8	A111023	Rotor
	A 10820A	Liner 9	A111030	Starter
	▲ 10820B	Liner 10	A111031	Breshes
	A10820C	Liner 11	A111032	Pields
	A 10820D	Liner 12	A111093	. Botor
	A 10820B	Liner 13	à 111040	Starting Contactor
	A10820F	Liner 14 months	A111041	Coil
	A 10820G	Liner 15	A111042	Contact
	A 10820H	Liner 16	A 111050	Voltage Regulator
	A108300	Liner Wet Type	A 11 10 60	Siring Warted Without
	A 108 30 1	Liner 1	A111200	Sydraulic Starting System
	A 108302	Liner 2		1000
	A108303	Liner 3		
	A108304	Liner 4		
	A 108305	Liner 5		ADIE COPY

A108307

			(
▲ 112000	BEGINE CONTROL GROUP	A117030	Pump, Fuel Oil
A 1120 10	Governor, Hydraelic	A117031	Bearing
A112020	Covernor and Tachometer, Bydraulic	A117032	Bushing
A112030	Covernor, Mechanical	A117033	Casing
A 112040	Governor and Tachometer, Bechanical	A117034	Gear
A112050	Mechanical Governor, Overspeed	A117035	Packing
A112060	Shafting tamenbly, Injection	A117036	Gland, Packing
A112061	Control Bearing	A117037-	Shaft
A112062	Clevis Pin	A117040	Fuel Oil Riser
A112063	Screw, Bicrometer Adjusting	A117050	Injector /Unit/
A112064	Shaft	A117060	Nozzles, Injection
A112065	Springs	A117070	Pump, Injection
A112066	Throttle	A117080	Banifold
A112067	Toke	A117100	Block, Metering
A112070	Overspeed Trip	A117110	Piping
A112080	Pneuvatic Control	A117120	Valve, Relief
A112100	Reversing Bechanism	A117130	Strainer
A112110	Tachometer Drive	A117140	Block, Transfer
► A113000	ENGINE TURNING GRAZ GROUP	A117150	Valves
A114000	EXHAUST SYSTEM	A118000	GBAR GROUP
A114010	Blbows	A118010	Accessory Drive Gear
A114020	Expansion Joints	A118020	Blower Drive Gear
A114030	Lagging	A118030	Comshaft Idler Gear
A114040	Manifold	' A118040	Governor and Tachometer Drive Gea
A114050	Bufflers	A118050	Pump, Drive Gear
A114060	Piping	→ A120000	HBAT EXCHANGER GROUP
A114070	Valves	A120010	Cooler, Fresh Water
A115000	PLYMBEL AND RIBG GRAE GROUP	A120011	Zinc
A115010	Coupling, Plexible	1 120020	Cooler, Inner
A115011	Spring Packs	A120021	Zinc
A116000	FRESH WATER SYSTEM	A120030	Keel Cooler
A116010	Expansion Tank	A120031	Zinc
A 116020	Piping	A 120040	Lub. Oil Cooler
A116030	Punp, Fresh Water	A120041	Zinc
A116031	Bearing	A120050	Piping
A116032	Casing	A121000	INSTRUMENT GROUP
A116033	Impeller	A121010	Aleres
A116034	Packing	A121020	Gages
A116035	Gland, Packing	A121030	Pyrometers
A116036	Shaft	A121040	Tachoneter
A116037		A121041	Cable
A116037	Siceve, Shaft Rings, Wearing	A121050	Theraccouples
A116040		A121060	Thermometers
A116050	Drive Gear Pump Temperature Regulator	A121070	Tubing
	Thermostatic Blement	, A121080	Valves
A116051	Thermostatic Blement Thermostats	A122000	
A116070	Valves	A 122010	Pilter
A117000	PUBL OIL AND INJECTION GROUP	A122020	Firtor Seater
A117010	Publication Choop	1	The state of the s
1117010	Puel Oil Lines		

		A10
	A122030	Pump, Lube Oil
	A 122031	Bearing
	A122032	Bushing
	A122033	Casing
	A122034	Gear
	A 122035	Packing
	A122036	Gland, Packing
	A122037	Shaft
	A122038	Sleeve, Shaft
	A122040	Pump, Lube Oil Scavenging
	A122041	Casing
	A122042	Gland, Packing
	A122043	Rotor
	A122044	Shaft
Г	A122050	Manifold
	A122060	Piping
L	A 122070	Regulator
	A122080	Valve, Relief
	A122100	Separator •
г	A122110	Strainer
1	A 122120	Tubes, Oil Supply
	A122130	Valves
	A 123000	PISTON ASSY
	£123010	Carrier Assy
	A123010	Piston, Dummy
	A 123020	Piston /Less Rings/
	A 123030	
		Pin, Piston
	A123050	Bushing, Piston Pin
	A 123060	Cap, Piston Pin
	A123070 A123080	Bing, Compression
		Bing, Expander
	A123100	Bing, Oil Control
1	A123110	Nozzle, Spray
-	► A124000	SAL1 WATER SYSTEM
L	A124010	Piping
	A124020	Pump, Salt Water
	A124021	Bearing
	A124022	Casing Inpeller
	A 124023	
	A 124024	Packing Gland, Packing
1	A 124025	Shaft
	A 124026	
1	A 124027	Sleeve, Shaft
1	1124028	dings, Wearing
	A 124030	Pump, Drive Gear
1 .	A 124040	Valve, Regulating
1	A124050	Trap, Sand
	A124060	Strainer
1	A124070	Valves
	A124080	Ziac
al I	A 124 100	Pump, Seit Mater Booster

PHOTHER	(Continued)
A 125000	SERUCTION GEAL/
A125010	searing
A125020	Coupling
A125030	Clutch, Disc
A125040	Driving Assy
A125050	Gear, Forward
A125060	Gear, Idler
A125070	Gear, Beverse
A125080	Housing Assy
A 125 100	Pinion, Forward
A125110	Pinion, Reverse
A125120	Plate, Back
A125130	Plate, Floating
A125140	Plate, Front
A 125150	Seal, Oil
A 125 160	Shaft, Counter.
A125170	Shaft, Idler
A 125180	Shaft, Operating
A125200	Shaft, Reverse
A126000	ARBICAL DRIAS
A126010	Bearing, Thrust, Lover
A126020	Bearing, Thrust, Upper
A126030	Shaft, Plexible Coupling
A 126040	Rings, Laminated
A126050	Lockplates
A126060	Nozzles
A126070	Pinion, Lower
A 126080	Pision, Opper
A 126 100	Pinion, Shaft
A126110	Spline, Upper
A 126120	Spline, Lower
A127000	DAMPENER, VIBRATION
A127 100	Pins
&127101	Bushing
A127102	Spider
&127103	Casing

AUXILIARY SYSTEMS, ENGINEERING ENGINE, DIESEL, SHIPS SERVICE GENERATOR

→ 1 103000	ENGINE GROUP, BASIC	→ A105000	CONNECTING ROD ASSY
A 103010	Base, Engine	A 105010	Connecting Rod
A 103011	Poundation Bolt	A105011	Bearing
1103012	Mount, Besilient	¥105012	Bearing Cap
à 103020	Block, Engine	A 105013	Bolt
A 103021	Cap, Bearing	A 105014	Crosshead
A103022	Plate, BND Pront	A 105015	Nut 43 464 April 1995
▲103023	Plate, SND Bear	A 105016	Piston Pin Bushing
A 103024	Plyubeel Cover	A 105017	Piston Rod
1103025	Gear Cover, Front	A 105018	Nozzle, Spray
A 103026	Gear Cover, Rear	A105050	Counecting Rod Assy Upper
A 103027	Cover, Hand Role	▲105051	Connecting Rod
1103030	Breatter, Cranicase	A105052	Bearing
A103031	Elezent	A105053	Cap, Bearing
A103032	Scraen	A105054	Bolt
A103040	Cranicase	A105055	Crossbead
1103041	Cover, Hand Role	A105056	Nut
A103050	Lifting Bracket	A103057	Bushing, Piston Pin
1103060	Mount, Engine	A105058	Rod, Piston
A103070	Sump	A10505A	Nozzle, Spray
A103164	Pump, Oil Injection	- A106000	CRANKSHAPT GROUP
- A104000	CAMSHAFT GROUP	A106100	Crankshaft Assembly, Single
A 104010	Balance Staft Assembly	A 106101	Crankshaft
A104011	Dlana Idanton	A 106 102	Gear
A 104012	Shadt, Balance	A 106 103	Pulley
A104012		1106104	Seal, Oil, Front
	Bearing Whomes	A 106 105	Seal, Ohl, Rear
1104014	Bearing, Thrust	A 106 106	Sprocket:
1104015	Counterweight	1106200	
A104016	Gear Canshaft Assembly		Bearings, Main
A104021		A 106201	Bearing, Main, 1
	Plate, Adapter	A106202	Bearing, Main, 2
1104022	Bearing	A106203	Bearing, Main, 3
1104023	Bearing, Thrust	A106204	Bearing, Main, 4
104024	Canshaft	1106205	Bearing, Main 5
A 104025	Counterweight	A106206	Bearing, Bain, 6
A 104026	Gear	▲106207	Bearing, Bain, 7
A 104030	Camshaft, Left Hand Assembly	A106208	Bearing, Main, 8
A104031		A 10620A	Bearing, Main, 9
A 104032		≥10620B	Bearing, Main, 10
A104033		110620C	Bearing, Hain, 11
A104034	Camshaft	A10620D	Bearing, Main, 12
A 104035		A10620B	Bearing, Main, 13
▲104036		A10620P	Bearing, Main, 14
1104040		▲10620G	Bearing, Main, 15
A 104041		A 10620H	Bearing, Bain, 16
▲ 104042		A10620J	Bearing, Main Thrust
▲104043		▲106300	Crankshaft, Lover Assembly
1104044		A106301	Crankshaft
▲ 104045		A 106 302	Gear
1104046	Gear	A106303	Seal, Cil, Front
		A 106304	Seal, Oil, Rear
EIC Stru	cture for indices extracted	A 106305	Sprocket

^{*} EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

		- A108000	CYLINDER LINER GROUP
A106400	Bearing, Main, Lower	A 108 160	Liner, DRY Type
1106401	Bearing Main 1 Lower	A108101	Liner 1
1106402	Bearing Main 2 Lower	A108102	Liner 2
A106403	Bearing Bain 3 Lower	A 108 103	Liner 3
A106404	Bearing Hain 4 Lower	A 108 104	Liner 4
A105405	Bearing Main 5 Lover	A 108 105	Liner 5
A 106407	Bearing Main 6 Lover	A 108 106	Liner 6
	Bearing Main 7 Lower	A108107	Liner 7
1106408	Bearing Main 8 Lower	A108108	Liner 8
A 10540A	Bearing, Hain 9 Lower	A10810	Liner 9
A 10640B	Bearing, Hain 10 Lover	A10810B	Liner 10
110640C	Bearing, Hain 11 Lower	A 108 10C	Liner 11
A 10640D	Bearing, Bain 12 Lover	A 108 10D	Liner 12
A106402	Bearing, Main 13 Lower	A 108 10E	Liner 13
110640F	Bearing, Hain 14 Lower	A108102	Liner 14
110640G	Bearing, Hain 15 Lower	A 108 10G	Liner 15
A 10640H	Bearing, Main 16 Lower	A 108 10H	Liner 16
A10640J	Bearing, Main Thrust Lover	▲108200	Liner, Integral Type
A106500	Crankshaft Opper, Assembly	A108201	Liner 1
A 10 6501	Crankshaft	▲108201	Liner 2
A136502	Gear	A108203	Liner 3
A106503	Sprocket	▲108203 ▲108204	Liner 4
A 106600	Bearing Main Upper	A108205	Liner 5
A106601	Bearing Main 1 Upper	A 108206	Liner 6
A106602	Bearing Hain 2 Upper	A108207	Liner 7
A106603	Bearing Main 3 Opper	A 108208	Liner 8
A106605	Bearing Hain 4 Upper	A 10820A	Liner 9
A106606	Bearing Hain 5 Upper	A 10820B	Liner 10
A106607	Bearing Main 6 Upper Bearing Main 7 Upper	A10820C	Liner 11
A106608	Bearing Main 7 Upper Bearing Main 8 Upper	▲10820D	Liner 12
A10660A	Bearing, Main 9 Upper	A10820B	Liner 13
A10660B	Bearing, Main 10 Upper	A10820P	· Liner 14
▲10660C	Bearing, Hain 11 Upper	110820G	Liner 15
A10660D	Bearing, Main 12 Upper	A10820E	Liner 16
A10660B	Bearing, Main 13 Upper	A108300	Liner Wet Type
A10660F	Bearing, Main 14 Opper	A 108 30 1	Liner 1
A10660G	Bearing, Main 15 Upper	A 108302	Liner 2
A10660H	Bearing, Main 16 Upper	A108303	Liner 3
A10660J	Bearing, Main Thrust Upper	A108304	Liner 4
► A107000	CYLINDER HEAD GROUP	A108305	Liner 5
▲1 07010	Cylinder Head Assy	A108306	Liner 6
A107011	Tube, Injector, Copper	A108307	Liner 7
A107012	Cover, Cylinder Head	A108308	Liner 8
.A107013	Head, Cylinder	A10830A	Liner 9
A107014	Guide, Valve	A10830B	Liner 10
▲107015	Guide, Valve Bridge	▲10830C	Liner 11
A107016	Valve, Relief	A10830D	Liner 12
A107017	Valve, Test	A10830B	Liner 13
▲107018	Seat, Exhaust Valve	A10830F	Liner 14
110701A	Seat, Intake Valve	▲10830G	Liner 15
		A10830H	Liner 16
IC Struc	ture for indices extracted		AVAILARIE
		AFCT	AUAHAKIF

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from ARINC Research Publication

A110000 CYLINDER VALVE OPERATING GRAR GROUP A 110010 Rod Assembly, Pash A110011 Pollover A110012 Hod, Push A110013 Spring, Push Rod A110014 Seat, Push Rod Spring A110020 Bocker Lever Assembly A110021 Bracket, Rocker Lever Bushing, Rocker Lever A110022 A 110023 Bocker Lever, Injector A110024 Bocker Lever, Intake Valve A110025 Bocker Lever, Exhaust Valve A110026 Bocker Lever, Left Hand A110027 Rocker Lever, Right Hand A110028 Lifter, Hydraulic A110030 Lifter, Mechanical A123000 PISTON ASSY A123010 Carrier Assy A123020 Piston, Dumay Piston /Less Bings/ A123030 A123040 Pin, Piston Bushing, Piston Pin A122050 A123060 Cap, Piston Pin A123070 Riag, Compression A123080 Ring, Expander A 123100 Bing, Oil Control A123110 Mozzle, Spray

^{*} EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

ALGOGOGO AUGULLIARY SYSTEMS, EMETHERATING BEST AVAILABLE COPY

► AA01000	H-12 DIRECT EXPANSION, ALE CONDITIONING SISTER	3401036	Commutator
AA01010	Cospressor	240 10 3E	Winding, Coil Slot Section
AA01011	Bearing, Crankshaft	4401033	Sinding, Coil 200 Turns
AA01012	Bearing, Connecting Rod	880103K	Vinding, Equalizer
4401013	Bearing, Connecting Wod Wrist Pin	A40103L	Wedges, Slot
AA01014	Bearing, Thrust	880103B	Banding
AA01015	Control, Underloader Capacity	8801040	Controller, Motor Compressor
AA0 10 16	Assembly Pins, Wrist	AA01050	Drive, Compressor Unit
AA01017	Piston	AA01051	Belt
AA01018	Filter, Oil	AA01052	Coupling, Plexible
AA0101A	Hods, Connecting	AM0 1053	Coupling, Solid
440101R	Pings, Piatoa	1401054	Birect
A20101C	Crankshaft	AA0 1060	Base
240101D	Strainer, Screen Suction	AA01070	Bounts, Shock
AA0 10 1B	Seal, Crankshaft Assembly -	4401080	Condenser, Water Cooled
240101P	Sleeve, Cylinder	AA01081	Beads
AA0 10 1G	Valve, Plate Assembly	AA01082	Tubes
AA0101H	Valve, Suction Assembly	4401083	Sheet, Tube
AA0101J	Valve, Belief	AA01084	Shell
AA0 10 1K	Valve, Oil Pressure kelief	2401100	Condenser Assembly, Air Cooled
AA0101L	Valve, Oil Relief	8801101	Coil, Condenser
AA01018	Thrust Collar, Crankshaft	AA01102	Pan Assembly
AA01020	Motor & C. Compressor Unit	AA01103	Hotor, Pan
AA01021	Housing, Bearing	AA01110	Beceiver
AA01022	Bell, END or Brackets, END	4401111	Gage, Sight
AA01023	Winding, Coil Shaft Section	AA01112	Plug, Pusible
AA01024	Winding, Coil BWD Turns	AA01113	Gage, Liquid Level
AA01025	Hings, Connection	AA01120	Heat Interchange
AA01026	Leads	AA01130	Strainer
AA01027	Wedges, Slot	AA01131	Screen
AA01028	Boards, Tersiaal	AA01140	Debydrator
AA0102A	Heaters	AA01141	Cartridge
AA0102B	Pan Assently	AA01142	Indicator, Boisture
AA0102C	Rings, Balance	AA01150	Valve, Banual, Globe and Angle
AA0102D	Rings, BWD	AA01151	Seat
AA0102E	Slinger	AA01152	Stea
AA0102P	Bearing Seat, Shaft	AA01153	Packing, Stea
AA01030	Motor D C, Compressor Unit	AA01160	Valve, Relief
AA01030	Bousing, Bearing	AA01170	Valve, Condenser Water Regulating
AA01031	Bells, BND or Bracket, BND	AAU1171	Bellovs Assembly
AA01032	Heater	AA01172	Seat
AA01033	Brush Rigging Assembly	A801173	Disc, Seat
2401034 2401035	Winding, Series	A001174	Packing
AA01035	Pinding. Shupt	A001175	Diaphraga
AA01037		AA01180	Valve Solepoid
	Finding, Consutating Leads	AM0 1181	Coil, Electrical
AA01038		A401182	Stea
AA0103A	Boards, Terminal	4401183	Seat West Ababases
AA0103B	TIIP, Overspeed	AA0 1200	Valve, Thermo Expansion
AA0103C	Pan Assembly	AA01201	Strainer
240103D	Slinger	A40 1202	Soat State of the
A40103E	Pearing Seat, Shaft Rings, Salance	AM01303	Stee Sengarines Laire College

AA01210	Valve, Evaporator Pressure	AA0132D	Slinger
AA01211	Soat	AA0 132E	Bearing Seats, Shaft
AA01212	Stem Stem Stem Stem Stem Stem Stem Stem	AA0132F	Rings, Balance
AA01213	SCIEB CO CALLERY CONTROL	AA0132G	Consutator
AA01214	Power Assembly	AA0132H	Winding, Coil Slot Section
AA01220	Switch, B P	AA0132J	Winding, Coil BND Turns
4401230	Switch, L P	AA0132K	Winding, Equalizer
AA01240	Switch, Oil Pressure	AA0132L	Wedges, Slot
1101250	Theraoseter	AA01328	Banding
AA01260	Gages	AA01330	Controller, Motor, Sea Water Pung
AA01261	Pressure	AA01340	Drive, Sea Water Pump
AA01262	Compound	AA01341	Belt
AA01270	Piping, Plexible Coupling	AA01342	Plexible
1101280	Indicator, Sight Plow	AA01343	Solid
AA01300	Pusp, Sea Water	AA01344	Direct
AA01301	Casing	AA01350	Controls, Piping Assembly, Sea
AA01302	Impeller	AA01351	Thermometer
AA01303	Nut, Impeller	AA01352	Gage
AA01304	Key, Impeller	AA01353	Switches, Water Pailure
AA01305	Bings, Wearing, Casing	AA01354	Piping, Plexible Coupling
AA01306	Rings, Wearing, Impeller	AA01360	Pan, Centrifugal
AA01307	Bushing, Throat	AA01361	Wheel
4401308	Ring, Lantern	AA01362	Bearings
AA0130A	Sleeve, Shaft	AA01363	Shaft
AA0130B	Clark Chaffing Day	1101364	Scroll
AA0130C	Danking Courseling Con	AA01370	Drive, Centrifugal Pap
AA0130D	Cashaka	AA01371	Belt
AA0130B	Chafa Duna	AA01372	Coupling, Plexible
AA01310		4401373	Coupling, Solid
AA01311	Hotor, A C, Sea Water Pump Housing, Bearing	. 4401374	Gear Assembly
AA01312	Bell, END or Bracket, END	1 101380	Hotor, & C Centrifugal Pan
2401312	Similary, coll Slot Section	. AA01381	Housing, Bearing
AA01314	Winding Coil BND Turns	AA01382	Bell, END or Bracket, END
AA01315	Rings, Connection	A401383	Winding, Coil Slot Section
AA01316	Leads	1101384	Winding, Coil BND Turns
AA01317	Wedges, Slot	AA01385	Bings, Connection
AA01317		AA0138C	Bings, Balance
		AA0138D	Bings, BND
AA0131A	Beaters Pan Assembly Rings Balance Rings END Slinger Bearing Seat, Shaft Motor, D C, Sea Water Pump Bousing, Bearing Bells, END or Brackets, END	AA0138E	Slinger
AA0131B	Pan Assembly	1101302	Dearing Scut, Shalt
AA0131C	Rings Balance	AA01400	Botor, D C Centrifugal Pan
AA0131D	Pings BWD	AA01401	
AA0131B	Slinger	AA01402	
AA0131F	Bearing Seat, Shaft	AA01403	_ Bells, END or Brackets, END Beaters
AA01320	Hotor, D C, Sea Water Pump	AA01404	
AA01321	Housing, Bearing		Brush Bigging Assembly
1101322	Bells, BND or Brackets, END	AA01405	Winding, Equalizer
AA01323	Bearers towards said the first the	AA01406	Winding, Shunt
AA01324	Grush Rigging Assembly	AA01407	Winding, Commutating
1101325	Winding, Series	AA01408	Leads
AA01326	Winding, Shunt	AA0140A	Boards, Terminal
AA01327	Winding, Consutating	AA0140B	Trip, Overspeed
AA01328	Leads newspaces versage	AA0140C	Pan Assembly
AA0132A	Boards, Terminal	AA0140D	Slinger
AA0132B	Trip, Overspeed	AA0140E	Bearing Seat, Shift
140132C	Tan Asseably	440140P	Bings, Balance

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AA0 140G	Consutator
AA01408	Winding, Coil Slot Section
110140J	Winding, Coil BWD Turns
440140L	Wedges, Slot
2201408	Banding
AA01410	Controller, Motor, Centrifugal Pan
1101420	Pan Assembly, Vaneaxiel or Tubeaxial
AA01421	Mpealial
1101422	Housing .
AA01423	Vanes, Stationary
1430	Hotor, A.C. Vaneaxial or
AA01431	Motor, A C, Vaneaxial or Tubeaxial Pan Housing, Bearing
4401432	Bell, END or Brackets, END
AA01433	Winding, Coil Slot Section
4401434	Winding, Coll Emb Turus
AA01435	Rings, Connection
AA01436	Leads
AA01437	Wedges, Slot
4401438	Board, Terminal
AA0143A	Heaters
AA0143B	Pan, Assembly
AA0143C	Rings, Balance
AA0143D	Rings, END
AA0143E	Slinger
AA0143F	Bearing Seat, Shaft
AA01440	
AA01441	Motor, D C, Vaneaxial or Tubeaxial Pan Housings, Bearing
AA01442	Bells, END or Bracket, END
1401443	Heaters
AA01444	Brush Rigging Assembly
AA01445	Winding, Series
AA01446	Winding, Shunt
AA01447	Winding, Commutating
AA01448	Leads
AA0144A	Board, Terminal
AA0144B	Trip, Overspeed
AA0144C	Pan Assembly
AA0144D	Slinger
AA0144E	Bearing Seat, Shaft
AA0144P	Rings, Balance
AA0144G	Commutator
AA0144H	Winding, Coil Slot Section
AA0144J	Winding, Coil END Turns
AA0144K	Winding, Equalizer
AA0144L	Wedges, Slot
AA01448	Banding
AA01450	
AA01460	Controller, Motor, Vaneaxial or Tubeaxial Pan Ambient Air Control Assembly
AA01461	Valve, Thermostat, Combination
AA01462	Steam Control, Humidity
AA01463	Valve, Hagnetic, Steam
AA01470	Coil, Heating, Duct Type
AA01471	Tubing
AA01472	feaders

AA01480	Cooler-Unit
AA01481	Coil, Cooling
AA01482	Tubing
AA01483	Pan Propeller Assembly
AA01500	Motor, A C, Unit Cooler
AA01501	Bousing, Bearing
AA01502	Bell, END or Brackets, END
AA01503	Winding, Coil Slot Section
AA01504	Winding, Coil BND Turns
AA01505	Rings, Connection
AA01506	Leads
AA01507	Hedges, Slot
AA01508	Board, Terminal
AA0150A	Heaters
AA0150B	Pan Assembly
AA0150C	Rings, Balance
AA0150D	Rings, END
A40150E	Slinger
AA0150P	Bearing Seat, Shaft
AA01510	Motor, D C, Unit Cooler
AA01511	Housing, Bearing
AA01512	Bells, END or Brackets, END
AA01513	Heaters
AA01514	Brush Rigging Assembly
AA01515	Winding, Series
AA01516	Winding, Shunt
AA01517	Winding, Commutating
AA01518	Leads
AA0151A	Boards, Terminal
AA0151B	Trip, Overspeed
AA0151C	Pan Assembly
AA0151D	Slinger
AA0151E	Bearing Seat, Shaft
AA0151P	Rings, Balance
AA0151G	Commutator
140151H	Winding, Coil Slot Section
AA0151J	Winding, Coil BND Turns
AA0151K	Winding, Equalizer
AA0151L	Wedges, Slot
AA01518	Banding
AA01520	Controller, Motor, Wait Cooler
AA01530 AA01531	Coil, Cooling Duct Type Tubes
AA0,1531	Headers
201332	Pan. Drain
AA01540	Pilters, Air
-AU 1340	trrers, vit

A000000 AUXILIARY SISTEMS, ENGINEERING AA00000 AIM CONDITIONING SYSTEMS

AA03000 AA03010	E-12 CHILLED WATER PLANT AIR CONDITION SYSTEM COMPLESSOR
AA03011	Bearing, Crankshaft
AA03012	Bearing, Connecting Rod
4403013	Bearing, Connecting Rod Wrist Pin
AA03014	Bearing, Thrust
AA93015	Control Assembly, Capacity
1403015	Pins, Wrist
AAG3017	Piston
AA03018	Pilter, Oil
AA0301A	Rods, Connecting
AA0301B	Rings, Piston
AA0301C	Crankshaft
AA0301D	Strainer, Screen Suction
AA0301B	Seal Crankshaft Assembly
4403012	Sieeve Cylinder
AA03016	Valve, Plate Assembly
AA0301H	Valve, Suction Assembly
AA0301J	Walve, Relief
AA0301K	Valve, Oil Pressure Relief
AA0301L	Valve, Oil Relief
AA0301H	Collar, Thrust, Crankshaft
AA03020	Hotor, A C, Compressor
AA03021	Housing, Bearing
AA03022	Bell, END or Brackets, END
AA03023	Winding, Coil Slot Section
AA03024	Winding, Coil BND Turns
1103025	Bings, Connection
A103026	Leads
A103027	Wedges, Slot
A103028	Board, Terminal
A: 0302A	Heaters
AA0302B	Pan Assembly
110302C	Bings, Balance
AA0302D	Rings, BND
A40302E	Slinger
A10302F	Bearing Seat, Shaft
AA03030	Motor, D C, Compressor
AA03031	Housing, Bearing
AA03032	Bells, END or Brackets, END
AA03033	Heaters
▲403034	Brush Rigging Assembly
AA03035	Winding, Series
AA03036	Winding, Shunt
AA03037	Winding, Commutating
4403038	Leads
AA0303A	Board, Terminal
AA0303B	Trip, Overspeed
AA0303C	
AA0303D	Slinger
\$40303E	Bearing Seat, Shaft

AA0303P	Rings, Balance
110303G	Commutator
AA0303H	Winding, Coil Slot Section
A10303J	Winding, Coil END Turns
AA0303K	Winding, Equalizer
AA0303L	Wedges, Slot
AA0303H	Banding
AA03040	Controller, Compressor
AA03050	Drive, Compressor
1103051	Belt
AA03052	Coupling, Flexible
1103053	Coupling Solid
AA03054	Direct
1103060	Base, Compressor
AA03070	Bounts, Shock
1103080	Condenser, Water Cooled
1103081	Bead
1103062	Tubes
1103083	Tube Sheet
AA03084	-Shell
1103100	Receiver
4403101	Gage, Sight
AA03102	Plug, Pusible
1103103	· Gage, Liquid Level
AA03110	Controls, Valves and Piping
AA03111	Assembly, Freon Heat Interchanger
AA03120	Strainer
AA03121	Screen
1103130	Dehydrator
AA03131	Cartridge
AA03132	Indicator, Moisture
1103140	Valve, Manual, Globe and Angle
AA03141	Seat
1403142	Stem
AA03143	Packing, Stem
1403150	Valve, Condenser Water Regulating
AA03151	Bellows Assembly
4403152	Seat
AA03153	Disc, Seat
AA03154	Packing
AA03155	Diaphragm
AA03160	Valve, Solenoid
AA03161	Coil, Electrical
AA03162	Ste .
1403163	Seat
AA03170	Valve, Thermo Expansion
4403171	Strainer
AA03172	Seat
AA03173	Stem
AA03174	Power Assembly
1403180	Switch, a P
AA03200	Switch, L P
*****	endant oil millon

	AA03000 R-12 CHILLED W
4403220	Thermoseler
AA03230	Gage
AA03231	Pressure
AA03232	Compound
AA03240	Piping, Flexible Coupling
1103250	Indicator, Sight Flow
AA03260	Pump, Sea Water
AA03261	Casing
AA03262	Impeller
1103263	Nut, Impeller
AA03264	Key, Impeller
1103265	Minys, Wearing, Casing
1103266	Riggs Wearing, Impeller
1103267	Bushing, Throat
1103268	sing, Lantern
AA0326A	Sleeve, Shart
1103205	Gland, Stuffing Box
AA0326C	Packing, Stuffing Box
110326D	Gaskets .
AA0326E	Shaft, Pump
AA03270	Motor, A C, Sea Water Pusp
1403271	Housing, Bearing
1403272	Bell, END or Brackets, END Winding, Coil Slot Section
AA03274	Winding, Coil END Turns
***************************************	Rings, Connection
1403276	Leads
AA03277	Wedges, Slot
AA03278	doard, Terminal
AA0327A	Heaters
AA0327B	Fan Assembly
AA0327C	Pines. Balance
AA0327D	Rings, END
410327E	Slinger
140327F	Bearing Seat, Shaft
1103280	Motor, D C, Sea Water Pump
4403281	Housing, Bearing
AA03282	Bells, END or Brackets, END
AA03283	heaters
AA03284	Brush Rigging Assembly
AA03285	Winding, Series
AA03286	Winding, Shunt
AA03287	Winding, Consutating
1103288	Leads
A80328A	Board, Terminal
AA0328B	Trip, Overspeed
AA0328C	Pan Assembly
140328D	Slinger
440328E	Bearing Seat, Shaft
AA0328F	Rings, Balance
AA03286	Consutator
AA0328J	Winding, Coil Slot Section Winding, Coil BWD Turns
AA0328K	Winding, Equalizer
AA0328L	vedges, Slot
	300,000

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Banding

and developed	Controller, Motor, Sea Water Pump
1403310	Drive, Sea Water Pump
A03311	Belt
1403312	Coupling, Plexible
103313	Coupling, Solid
103314	Direct
103320	Controls and Piping Assembly, Sea
103321	Thermometer
403522	udye
103323	Switch, Water Failure
103324	Piping, Flexible Coupling
A03330	Controls and Piping Assembly, Chilled Water
A03331	Thermometer
A03340	Gage Pump, Chilled Water
A03341	Casing
A03342	
A03342	Impeller Nut, Impeller
103344	Key, Impeller
A03345	dings, Wearing, Casing
103346	Rings, Wearing, Lapeller
103347	Busning, Throat
103348	Bing, Lantern
103341	Sieeve, Shart
A0334B	Gland, Stuffing Box
AU334C	Packing, Stuffing Box
140334D	Gaskets
A0334E	Shart, Pump
103350	Motor, A C Chilled dater Pump 'T
A03351	Housing, Bearing
A03352	Bell, END or Brackets, END
A03353	Winding, Coil Slot Section
103354	Winding, Coil BND Turns
103355	Rings, Connection
103356	Leads
103357	Wedges, Slot
103358	Board, Terminal
A0335A	Heaters
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A0335C	mings, Balance
A0335D	Rings, END
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103360	Notor D C Chilled Water Pump
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A03363	Heaters
103364	Brush Rigging Assembly
103365	Winding, Series
A03366	Widning, Shunt
403367	Winding, Commutating
103368	Leads
A0336A	Board, Tereinal
403368	Trip, Overspeed

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ESTABLISHMENT OF RELIABILITY AND MAINTAINABILITY DATA BANK FOR --ETC(U)
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### ### ### ### ### ### ### ### ### ##	8A0336J	Winding, Coil BMD Turns
### ### ### ### ### ### ### ### ### ##	820336E	Winding, Equalizer
AA0336E Banding AA03370 Controller, Botor, Chilled Sater AA03380 Cailler AA03381 Heads AA03382 Tubes AA03383 Tube Sheets AA03383 Tube Sheets AA03400 Pan Ceatrifugal AA03401 Wheel AA03402 Bearings AA03403 Shaft AA03404 Scroll AA03410 Drive Centrifugal Pan AA03411 Belt AA03412 Coupling, Flexible AA03413 Coupling, Solid AA03414 Gear Assembly AA03420 Motor, A C, Centrifugal Pan AA03421 Housing, Bearing AA03422 Bell, END or Brackets, END AA03423 Winding, Coil Slot Section AA03424 Winding, Coil Slot Section AA03425 Bings, Connection AA03426 Leads AA03427 Wedges, Slot AA03428 Board, Terminal AA03428 Board, Terminal AA03428 Baring Seat, Shaft AA03427 Bearing Seat, Shaft AA03428 Board, Slot AA03429 Bings, BlD AA03420 Slinger AA03421 Bearing Seat, Shaft AA03421 Bearing Seat, Shaft AA03431 Board, Terminal AA03431 Board, Series AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Series AA03437 Board, Terminal AA03438 Leads AA03438 Leads AA03438 Fan Assembly AA03439 Fan Assembly	#A03361	
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AA03426 Leads AA03427 Wedges, Slot AA03428 Board, Terminal AA03424 Meaters AA0342B Fan Assembly AA0342C Rings, Balance AA0342C Rings, BHD AA0342E Slinger AA0342F Bearing Seat, Shaft AA03437 Housing, Bearing AA03431 Housing, Bearing AA03432 Bells, END or Brackets, END AA03433 Heaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Shunt AA03438 Leads AA03438 Board, Terminal AA03439 Trip, Overspeed AA03431 Trip, Overspeed	Property of the second of	
AA03427 Wedges, Slot AA03428 Board, Terminal AA03421 Weaters AA0342B Fan Assembly AA0342C Bings, Balance AA0342C Bings, BHD AA0342E Slinger AA0342F Bearing Seat, Shaft AA03430 Botor, D C, Centrifugal Fan AA03431 Housing, Bearing AA03432 Bells, END or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03438 Leads AA03438 Leads AA03438 Trip, Overspeed AA03436 Fan Assembly		
AA03428 Board, Terminal AA03428 Heaters AA0342B Pan Assembly AA0342C Rings, Balance AA0342C Rings, BND AA0342E Slinger AA0342F Bearing Seat, Shaft AA03430 Rotor, D C, Centrifugal Pan AA03431 Housing, Bearing AA03432 Bells, END or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Communications AA03438 Leads AA03438 Board, Terminal AA03438 Trip, Overspeed AA0343C Fan Assembly		
AA0342A Meaters AA0342B Pan Assembly AA0342C Rings, Balance AA0342D Rings, BND AA0342E Slinger AA0342F Bearing Seat, Shaft AA03430 Rotor, D C, Centrifugal Pan AA03431 Housing, Bearing AA03432 Bells, BND or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Committing AA03438 Leads AA03438 Board, Terminal AA03439 Trip, Overspeed		
AA0342B Pan Assembly AA0342C Rings, Balance AA0342D Rings, BBD AA0342E Slinger AA0342F Bearing Seat, Shaft AA03430 Rotor, D C, Centrifugal Pan AA03431 Housing, Bearing AA03432 Bells, BND or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Communications AA03438 Leads AA03438 Board, Terminal AA03438 Trip, Overspeed AA03436 Fan Assembly		
AA0342C Bings, Balance AA0342D Bings, BND AA0342E Slinger AA0342P Bearing Seat, Shaft AA03430 Botor, D C, Centrifugal Pan AA03431 Housing, Bearing AA03432 Bells, BND or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Committing AA03438 Leads AA03438 Board, Terminal AA03438 Trip, Overspeed AA0343C fan Assembly		
AA0342D Rings, BND AA0342E Slinger AA0342P Bearing Seat, Shaft AA03430 Rotor, D C, Centrifugal Fan AA03431 Housing, Bearing AA03432 Bells, BND or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Committing AA03438 Leads AA03438 Board, Terminal AA03438 Trip, Overspeed AA03436 fan Assembly		
AA0342E Slinger AA0342F Bearing Seat, Shaft AA03430 Botor, D C, Centrifugal Fan AA03431 Housing, Bearing AA03432 Bells, END or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Connecting AA03438 Leads AA03438 Board, Terminal AA03439 Trip, Overspeed AA0343C fan Assembly	5555.55	
AA0342F Bearing Seat, Shaft AA03430 Botor, D C, Centrifugal Pan AA03431 Housing, Bearing AA03432 Bells, END or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Connecting AA03438 Leads AA03438 Board, Terminal AA03439 Trip, Overspeed AA0343C fan Assembly		
AA03430 Rotor, D C, Centrifugal Fan AA03431 Housing, Bearing AA03432 Bells, END or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Committing AA03438 Leads AA03438 Board, Terminal AA03438 Trip, Overspeed AA03436 Fan Assembly		
AA03431 Housing, Bearing AA03432 Bells, BND or Brackets, END AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Committing AA03438 Leads AA03431 Board, Terminal AA03431 Trip, Overspeed AA03431 Fan Assembly		
AA03432 Bells, BND or Brackets, BND AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Committing AA03438 Leads AA03438 Board, Terminal AA03438 Trip, Overspeed AA03438 Fan Assembly		
AA03433 Beaters AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Committing AA03438 Leads AA03438 Board, Terminal AA03438 Trip, Overspeed AA03438 Fan Assembly		
AA03434 Brush Rigging Assembly AA03435 Winding, Series AA03436 Winding, Shunt AA03437 Winding, Commutating AA03438 Lends AA03438 Board, Terminal AA03438 Trip, Overspeed AA03438 Fan Assembly		
AA03435 Winding, Series AA03436 Winding, Shunt A103437 Winding, Commutating AA03438 Leads AA03431 Board, Terminal AA03431 Trip, Overspeed AA0343C fan Assembly		
AA03436 Winding, Shunt AA03437 Winding, Commutating AA03438 Leads AA03431 Board, Terminal AA03431 Trip, Overspeed AA0343C fan Assembly		
A103437 Winding Committing A103438 Leads A103431 Board, Terminal A103431 Trip, Overspeed A10343C for Assembly		
AA03438 Leads AA03431 Board, Terminal AA03431 Trip, Overspeed AA0343C fan Assembly		
AA0343: Board, Terminal AA0343: Trip, Overspeed AA0343C fan Assembly		
AA0343h Trip, Overspeed AA0343C fan Assembly		
\$40343C fan Assembly		
Al0343D Slinger		
AA0343B Hearing Seat, Shaft		
A103437 Bings, Balance		
A103436 Coonstator		
\$103438 Winding, Coil Slot Section	810343H	Finding, Coil Slot Section

4403433	Winding.Coil BED Torns
AA0343%	Winding, Egraliser
AA0.143L	Hedges, Slot
AA03438	Banding
4403440	Controller, Ector, Centrisugal Fan
AA03450	Fan, Vancazial or Trbeagual
4403451	Uheel .
AA03452	dousing
4403453	Vanes, Stationery
4103460	Motor, A C Vancazial or
1403461	Housing, Bearing
1103462	Bell, BND or Brackets, BND
AA03463	Winding, Coil Slot Section
1403464	Winding, Coil SWD Turns
1403465	Rings, Connection
AA03466	Leads
AA03467	Wedges, Slot
AA03468	Board, Terminal
1103461	Beaters
110346B	Pan Assembly
AA0346C	Rings, Balance
110346D	Bings, BND
AA0346E	Slinger
AA03470	Bearing Seat, Shaft
AA03471	Motor, D C, Vanearial or Tubearial Fan Bousing, Bearing
AA03472	Sells, BND or Brackets, BND
AA03473	Heaters
AA03474	Brush Rigging Assembly
4403475	Winding, Series
1403476	Winding, Shunt
AA03477	Winding, Commutating
AA03478	Leads
1403471	Board, Terminal
AA0347B	Trip, Overspeed
840347C	fan Assembly
A40347D	Slinger
A40347E	Bearing Seat, Shaft
1403477	Rings, Dalance
2463476	Consutator
AA03478	Winding, Coil Slot Section
AA0347J AA0347K	Winding, Coil BMD Turns Winding, Equalizer
AA0347L	Bedges, Slot
440347B	Banding
AA03480	Controller. Motor. Vaneavial or
AA03500	Controller, Motor, Vaneaxial or Tubenzial Pan Control Assembly, Ambient Air
AA03501	Valve, Thermostat Combination
AA03502	Steam Control, Humidity
AA03503	Valve, Hagnetic Steam
8403504	Thermostat
AA035:0	Coil, Bosting, Duct Type
AA03511	Tubing
A403512	Beaders
1403520	Cooler, Sait
A403521	Coil, Cooling
4403522	Pan. Propeller Assembly

AA03000 R-12 CHILLED WATER AIR CONDITIONING SYSTEM (Continued)

AA03530 Motor, & C. Unit, Cooler 4403531 Mousing, Bearing AA03532 Bells, END or Brackets, END AA03533 Winding, Coil Section AA03534 Winding, Coil END Turns AA03535 Rings, Connection A403536 Leads Wedges, Slot A463537 AA03538 Board, Terminal A40353A Heaters AA0353B Fan Assembly Mings, Balance AA0353C AA0353D Bings, END AA0353E Slinger AA0353P Bearing Seat, Shaft AA03540 Botor, D C, Cooler, Unit 4403541 Housing, Bearing AA03542 Bells, END or Brackets, END 4403543 Beaters AA03544 Assembly, Brush Rigging Assembly AA03545 Winding, Series Winding, Shunt AA03546 1403547 Winding, Computating AA03548 Board, Terminal 4403544 440354B Trip, Overspeed **▲▲0354**C Pan Assembly AA03549 SLLLYEL 110354E Bearing Seat, Shaft 440354F Bings, Balance 440354G Commutator AA0354H Winding, Coil Slot Section Winding, Coil BND Turns AA0354J 440354K Winding, Equalizer 440354L Wedges, Slot Banding AA03548 AA03550 Controller, Botor, Unit Cooler AA03560 Coil, Cooling Duct Type 4403561 Tubes Headers AA03562 A403563 Pan, Drain AA03570 Filters, Mir

AUXILIARY SYSTEMS, ENGINEERING ACK CONDITIONING SYSTEMS

AAU4000	AIR CONDITIONING PLANT, SELF	LEGADAA	Winding, Coil END Turns
4404010	Compressor	AAU4U3E	winding, Equalizer
AA04011	searing, Crank Shaft	AAU403L	bedges, Slot
AA04012	Bearing, Connecting Rods	MEO+UAA	danuing
1104013	Rearing, Connecting Rod Wrist	1404040	Contiblier, Motor, Air Condition
104014	Bearing, Thrust	AA04050	Drive, Compressor
A04015	Control, Capacity Assembly	AAU4051	Belt
A04016	Pins, Wrist	AAU4052	Coupling, Flexible
A04017	Piston	AA04053	Coupling, Solid
A04018	Filter, Oil	AAU4054	Direct
A0401A	Reas, Connecting	AA04060	Compressor, Hermetic
A04018	dings, Piston	AA04070	Base
A0401C	Shart, Crank	AA04080	Mounts, Shock
A0401D	Strainer, Screen Suction	AA04100	Condenser, Air Cooled
10401E	Seal, Crank Shaft Assembly	AA04101	tan Assembly
A0401P	Sleeve, Cylinder	· AA04110	Motor, A C Fan
40401G	Valve, Plate Assembly	AA04120	Motor, D C Pau
A0401H	Valve, Suction Assembly	AA04130	Controller, Motor, Fan
▲0401J	Valve, Relief	AA04140	keceiver
A0401K	Valve, Oil Pressure Relief	AA04141	Pluy Fusible
A0401L	Valve, Oil Helief	AA04150	Congenser, Water Cooled
A0401h	Thrust, Collar, Crank Shalt	AA04160	Valve, water Regulating, Sea date
AU4020	Motor, A C, Air Conditioning Plant, Self Contained	AA04170	Controls, Freon, Valves and
A04021	Housing, Bearing	AA04171	Piping Assembly Heat Interchanger
A04022	dell, END or Brackets, END	AA04172	Dehydrator
AU4023	Winding, Coil Slot Section	AA04173	Valve, Thermo Expansion
A04024	Winding, Coil BND Turns	AA04174	Switch, H P
A04025	Rings, Connection	AA04175	Switch, L P
A04026	Leaus	AA04176	Switch, Oil Failure
A04027	Wedges, Slot	AA04177	Piping, Flexible Coupling
A04028	moards, Terminal	AA04180	Cooler, Unit
A0402A	Heaters	AA04181	Coil, Cooling
A04028	ran Assembly	AA04182	ran, Centritugal
A0402C	wings, Balance	AA04200	
▲0402D	Bings, BND	AA04201	Botor, A C, Fan, Air Conditioning, Sell Contained Housing, Bearing
A0402E	Slinger	1104202	Sell, END or Brackets, END
40402F	Bearing Seat, Shaft	AA04203	Winding, Coil Slot Section
A04030	Motor, D C. Air Conditioning	1404204	Winding, Coil END Turns
A04031	Motor, D C, Air Conditioning Plant, Self Contained Housing, Bearing	AA04205	minus, Connection
A04032	Bells, END or Brackets, END	AA04206	Leaus
A04033	Heaters	AA04207	Wedges, Slot
A04034	brush migging Assembly	1404208	Boards, Terminal
404035	Winding, Series	AA0420A	deaters
404036	Winding, Shunt	140420B	Pan Assembly
AU4037	Winding, Commutating	110420C	Bings, Balance
A04038	Leads	AA0420D	Rings, END
ALOPOA	doards, Terminal	AA0420E	Slinger
AU403L	Trip, Overspeed	AA0420F	Bearing Seat, Shaft
A0403C	Fau Assembly		
A0403D	Slinger		
4U4J3E	Bearing Seat, Shaft	5-0- 111	ALLARIE CODY
		DECT AND	

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Rings, Balance

Winding, Coil Slot Section

Cossutator

440403F

AA04000 AIR CONDITIONING PLANT, SELF CONTAINED

(Continued)

1104210	Motor DC, Pan, Air Conditioning,
1104211	Housing, Mearing
1404212	bells, END or Brackets, END
AA04213	HEATERS
4404214	Brush Higging Assembly
4404215	Winding, Series
4404216	Winding, Shunt
AA04217	dinding, Consutating
AA04218	Leads
AA0421A	Boards, Terminal
AA0421B	Trip, Overspeed
140421C	Pan Assembly
AA0421D	Slinger
AA0421E	Shart, Bearing Seat
A40421F	Rings, Balance
AA0421G	Commutator
1104213	winding, Coal END Turns
AA0421K	Winding, Equalizer
A40421L	Wedges, Slot
AA0421M	Banding
AA04220	Controller, Motor, fan, Air CUND-
3404230	Itioning Plant, Self Contained Controls, Ambient
AA04240	Thersostat
AA04250	Blement, Shut OFF, Manual
AA04260	Controller, Bunidity
AA04270	Filter, Air
AA04280	Drive, Unit Cooler
AA04281	belt
AA04282	Coupling, Flexible
AA04283	Coupling, Solid

A405076

ADVILIANT SYSTEMS, ENGINEERING AIR CONDITIONING SYSTEMS

AA05000	AIR CONTITIONING PLANT, LITTION BROWIDE ABSORPTION	AA05077	Wedges, Slot
1405010	Absorber and Evaporator Assembly	AA05078	Board, Terminal
AA05011	Shell	A 40507A	Beaters
AA05012	Sheets, Tube	A405076	Pan Assembly
AA05013	Tubes	AN0507C	Rings, Balance
AA05014	Nozzles, Spray, Evaporator	AA0507D	Rings, END
& AO 50 15	Nozzles, Spray, Absorber	AA0507E	Slinger
A405016	Heads, Absorber	AA0507F	Bearing Seat, Shaft
AA05017	Gage, Absolute Pressure	AA05080	Controller, Salt Bater Pump
AAU5018	Gage, Refrigerant Overflow	AA05100	Drive, Salt Water Pump
AA05020	Temperature Generator Assembly	AAU5101	Coupling, Flexible
AA05021	Shell	AA05102	Direct
AA05022	Sheet, Tube	AA05110	
AA05023	Tute		Controls, Valves and Piping Assembly, Strong Solution Valves, Manual, Diaphragm
AA05024	Eliminator Assembly	AA05111	
	Condenser Assembly	AA05112	Piping, Flexible Coupling
1105030		AA05120	Pump, Strong Solution
1405031	Shell	AA05121	Casing
AA05032	Sheet, Tube	AA05122	Impeller
AA05033	Tube	AA05123	Nut, Impeller
AA05034	Beads	AA05124	Key, Impeller
AA05035	Gage, Vapor Condensate Temperature	AA05125	Rings, Wearing, Casing
AA05040	Beat Exchanger Assembly	AA05126	Rings, Wearing, Impeller
AA05041	Shell Shell	AA05127	Bushing, Throat
AA05042	Sheet Tube	AA05128	Ring Lantern
A105043	Tubes	AA0512A	Sleeve, Shatt
AA05044	Control Solution High	AA0512B	Gland, Stufting Bor
AA05045	Temperature Pheumatic Gage, Temperature Strong Solution	AA0512C	Packing, Stuffing Hox
AA05050	Controls, Valves and Piping	AA0512D	Gaskets
AA05051	Assembly, Salt Water Piping	AAU5128	Shatt, Pump
AA05052	Valve, Condenser Bypass	AA05130	Motor A C, Strong Solution Pump
AA05053	Thermostat, Air Supply Control	AA05131	Housing, Bearing
A405054	Valve, Hanual Globe and Angle	AA05132	Bells, END or Brackets, END
AA05055	Valve, Manual Diaphrage	AAU5133	Winding, Coil Slot Section
AA05060	Pump, Salt Water	AA05134	Winding, Coil END Turns
AA05061	Casing	AA05135	Rings, Connection
AA05062	Impeller	AA05136	Leads
AA05063	Nut, Impeller	AA05137	Wedges, Slot
AA05064	Key, Impeller	AA05138	Boards, Terminal
AA05065	Rings, Wearing, Casing	AA0513A	Scaters
AAU5066	Rings, Wearing, Impeller	AA0513B	Pan, Assembly
AA05067		AA0513D	Rings, Balance
AA05068		AA0513D	Rings, END
A40506A	Sleeve, Shaft	AA0513E	Slinger
AA0506B		AA0513F	Bearing Seat, Shaft
A40506C			Controller, Strong Solution Pump
	Packing, Stuffing Box	AA05140	
110506D		AA05150	Drive, Pump
140506E		AA05151	Coupling, Flexible
AA05070		AA05152	Direct
AA05071		AA05160	Controls, Valves and Piping Assembly, Wash Solution Valves, Manual, Diaphrage Type
AA05072		AA05161	
AA05073		1405162	Piping, Plexible Coupling
AA05074	Winding, Coil END Turns		
AAU5075	Rings Connection		

AAOSOOD LITHIUM BROMIDE ABSORPTION AIR CONDITIONING PLANT (Continues)

4405170	Pusp, Seak Solution	A40523A	Beaters
AMS 171	Casing	AA05238	Pen Assembly
AA05172	Ispeller	AA0523C	Rings, Balauce
A405173	Sut, lapeller	AA0523D	Rings, END
A405174	Key, lapeller	AA0523E	Slinger
2405175	Rings, Wearing, Casing	AA0523F	Bearing Seat, Shaft
AA05176	Rings, Wearing, Impeller	AA05240	Controller, Refrigeration Water
A405177	Brushing, Throat	AA05250	Switch, Low Temperature
A405178	Bing, Lantern	AA05260	Valve, Diaphrage
A40517A	Sleeve, Shaft	AA05270	Drive, Beirigeration Water Pump
AA05178	Gland, Stuffing Box	AA05271	Coupling, Flexible
440517C	Packing, Stuffing Box	AA05272	Direct
AA0517D	Gaskets	AA05280	Coutrols, Valves and Piping
AA0517E	Shait, Pump	AA05281	Controls, Valves and Piping Assembly, Purge Valves, Manual Diaphrage Type
1405180	Hotor, A C, Weak Solution	AA05282	Switch, Level
AA05181	Housing, Searing	AA05283	Piping, Flexible Coupling
AA05182	Bells, END or Brackets, END	AA05284	Valve, Pneumatic, Purge
4405183	Winding, Coil Slot Section	AA05300	Pusp, Purgo
1405163	Winding, Coil SHD Turns	AA05301	Casing
A405185	Hings Consection	AA05302	Impedier
AA05186	Leads	1405303	Nut, Impeller
AA05187	Wedges, Slot	AA05304	Key, Impelier
AA05188	Boards, Torninal	1405305	Rings, Wearing, Casing
A40518A	Reaters	AA05306	Rings, Wearing, Impeller
AA0518B	Pan Assembly	AA05307	Bushing, Throat
AA0518C	Rings, Balance	AA05308	king Lantern
AA0518D	Rings, END	A40530A	Sleeve, Shaft
AA0518E	Slinger	A40530B	Gland, Stuffing Box
AA0518F	Bearing Seat, Shaft	AA0530C	Packing, Stuffing Hor
AA05200	Controller, Weak Solution Punp	AA0530D	Gaskets
AA05210	Drive Pusp	AA0530E	Shaft, Pump
AA05211	Coupling, Plexible	AA05310	Motor, A C, Purge Pump
1105212	Direct	AA05311	Housing, Bearing
AA05220	Pump, Refrigeration Water	AA05312	Bells, END or Bracket, END
AA05221	Casing	AA05313	Windings, Coil Slot Section
AA05222	Impeller	AA05314	Windings, Coil END Turns
AA05223	Nut, Impeller	AA05315	Rings, Connection
AA05224	Key, Impeller	AA05316	Leads
A405225	Rings, Wearing, Casing	AA05317	Wedges, Slot
4405226	Bings, Wearing, Impeller	AA05318	Boards, Terminal
A405227	Bushing, Throat	AA05318 AA0531A AA0531B	Heaters
AA05228	Bing, Lanters	AA05318	Pan Assembly
AA0522A	Sleeve, Shaft	AA0531C	Rings, Balance
AA0522B	Gland, Stuffing Box	AA0531D	Rings, END
880522C	Packing, Stuffing Box	A40531E	Slinger
A40522D	Caskets	A40531F	Bearing Seat, Shaft
A40522B	Sheft, Pusp	AA05320	Controller, Purge Pump
1405230	Botor, & C. Befrigeration Vater	AA05330	Drive, Purge Pusp
A405231	Housing, Bearing	AA05331	Coupling, Plexible
A405232	Sells, BHD or Brackets, BHD	AA05332	Direct
1405233	Winding, Coil Slot Section	AA05340	Tank Assembly, Purgo
4405234	Winding, Coil BUD Turns	1405350	Pump, Seal Water
4405235	Binys, Connection	AA05351	Casing
4405236	Leads	AA05352	lepeller
1405237	Bedges, Slot	2405353	Nut, Impeller
1405230	Boards, Terminel	AA05354	Rey, Impeller
	The state of the s	AA05355	Hings, scaring, Casing

AA05356	Hings, Wearing, Impeller	AA05457 AA05458	Boards, Terminal
A405357	Bushing, Throat	AA0545A	Reaters
AA05358	Ring, Lantern	AA0545B	Pan Assembly
AA0535A	Sleeve, Shaft	AA0545C	Rings, Balance
AA0535R	Gland, Stuffing Box	AA0545D	Rings, END
AA0535C	Packing, Stuffing Box	AA0545E	Slinger
AA0535D	Gaskets	AA0545P	Bearing Seat, Shaft
AA0535R	Shaft, Pump	AA05460	Controller, Chilled Water Pump
AAU5360	Motor, A C, Seal Water Pump	AAU5470	Drive, Chilled Water Pump
AAU5361	Housing, Bearing	AA05471	Coupling, Flexible
1105362	Bells, END or Brackets, END	AA05472	Direct
AA05363	Windings, Coil Slot Section	AA05480	
AA05364	Windings, Coil END Turns Rings, Connection	1405481	Controls, Valves and Piping Assembly Steam Valves, Manual, Globe and Angl
AA05366	Leads	AA05482	Valve, Control
1105367	Wedges, Slot	AA05483	Valve, Reducing
AA05368	Boards, Terminal	AA05484	Control, Solution High
AA0536A	heaters	1105500	Cooler Unit
AA05368		A405501	Coil, Cooling
AA05368	Fan Assembly	AA05510	Motor, A C, Cooler Unit
AA0536D	kings, Balance Rings, END	AA05511	Housing, Bearing
AA0536E	Slinger	AA05512	Bells, END or Brackets, END
AA0536F	Hearing Seat, Shaft	AA05513	Winding, Coil Slot Section
AA05370	Controller, Seal Water Pump	AA05514	Winding, Coil END Turns
AA05380	Drive, Seal Water Pump	AA05515	mings, Counection
AA05381	Coupling flexible	AA05516	Leads
AA05382	Direct	AA05517	Wedges, Slot
AA05400	Tank, Seal Water	AAU5518	Boards, Terminal
A405410	Valves, Seal Water	1 A0551A	Beaters
AA05420	Strainer, Seal Water	A405518	Pan Assembly
AA05430		AA0551C	Riugs, Balance
AA05431	Control Valves and Piping Assembly, Chilled Water Valve, Nanual	AA0551D	sings, IND
AA05432	Valve, Solenoid	A40551E	Slinger
AA05433	Switch, Flow Control	AA0551P	Bearing Seat, Shaft
AA05434	Switch, Thermostat	AA05520	Controller, Cooler Unit
AAU5435	Piping, Flexible Coupling	AA05530	Fan Wheel Assembly, Cooler Unit
AA05440	Pusp, Chilled Water	AA05531	Whee1
AA05441	Casing	AA05532	Bearings
AA05442	Impeller	AA05533	Shaft
AA05443	Nut, Impeller	A405540	Housing, Cooler Unit
AA05444	Key, lapeller	AA05550	Drive, Cool Unit Pump
AA05445	Rings, Wearing, Casing	A405551	Belt
AA05446	Rings, Rearing, Impeller	AA05552	Coupling, Flexible
AA05447	Bushing, Throat	1105560	Fan Assembly, Vanearial or
AA05448	Bing Lantern.	AAU 5561	Tubearial Wheel Assembly
AA0544A	Sleeve, Shaft	AA05562	Housing
AA0544E	Gland, Stuffing Box	AA05570	Motor, A C, Vaneaxial or Tubeaxial Fan
AA0544C	Packing, Stuffing Box	AA05571	Bousing, Bearing
440544D	Gaskets	AA05572	Bells, END or Brackets, BND
AA0544E	Shatt, Pump	AA05573	Winding, Coil Slot Section
AA05450	Motor, A C, Chilled Water Pump	A105574	Winding, Coil END Turns
AA05451	housings, Bearing	AA05575	Rings, Connection
A405452	bells, END or Brackets, END	AA05576	Leads
AA05453	Winding, Coil Slot Section	AA05577	Vedges, Slot
AA05454	Windings, Coil END Turns	AA05578	Boards, Terminal
AA05455	Hinys, Consection	AA0557A	Beaters
		AA05578	Pon Assembly

4 40 557C	Bings, Balance
849557D	Bings BND
A40557E	Sliuger
A 40 557F	Bearing Swat, Shaft
AA05580	Controller, Vancazial or
A 405600	Drive, Vancarial or Tubearial Pas
AA05601	Belt
4405602	Coupling, Flexible
1405603	Direct Females and the second
A AO 56 10	Coil, Cooling, Dect Type
AA05620	Controls, Ambient Air
1105621	Valve, Thermostat Combination
1405622	Control, Husidity
A405630	Coils, Beating, Duct Type
1405640	Filter, Air
AA05700	Valve Banner Dahl
AA05710	Diaphrage
AA05720	Diaphrage Plates
4405730	Diaphrage Housing
AA05740	Shaft Adjusting
AA05750	Shaft
1405760	Disc
1405770	Seat
A405780	Body
1105790	Gland Seal
2405720	o Bias

AUXILIARY SYSTEMS, ENGINEERING AIR CONDITIONING SYSTEMS

-	AA06000	AIR CONDITIONING PLANT, AIR CYCLE
	AA06010	Turbing Expender and Blover
	AA06011	Assembly Turbine
	AA06012	Sheft, Rotor
	AA06013	Wheel, Blower
	AA06014	Bearings
	AA06015	Bearing, Thrust
	AA06016	Washer, Thrust
	AA06017	See 10
	AA06018	Nozzle
	AA06020	Lube Gil System
	AA06021	Certridge Filter
	AA06022	Filter, Self Cleaning
	AA06023	Cooler, Oil
	AA06024	Pump, Oil Assembly
	AA06025	Hotor, Pump
	AA06026	Controller
	AA06027	Switch, Oil Pressure
	AA06030	Switch, Air Temperature
	AA06040	Valve, Air Solencid
	AA06050	Preumatic Control Assembly
	AA06051	Valve, Diaphrege Control
	AA06052	Valve, Pressure Reducer
	AA06053	Screen, Strainer
	AA06054	Valve, Control Pilot
	AA06055	Adjuster, Outlet Temperature
	AA06056	Relay, Computing
	AA06057	Operator, Pneumatic
	AA06060	Nain Air System
	AA06061	Exchanger, Heat
	AA06062	Valve, Relief
	AA06063	Valve, Bypass
	AA06064	Separator Moisture
	AA05065	Venturi

AUXILIANY SYSTEMS, ENGINEERING AIR CONDITIONING SYSTEMS

- 4407000	R-11 CHILLED WATER PLANT AIR COMLITIONING SYSTEM	4407130	Condeaser, Water Cooled, Air Conditioniong Plant
AA07010	Compressor Assembly, Centrutuqual	AA07131	Head
AA07011	lepeller	AA07132	Tubes
AA07012	Vane Assembly and Controls, Prerotation	AA07133	Sheet Tube
AAU7013	Pump, Oil	AA07134	Shell
4407014	Bearing, Thrust	AA07140	Chiller, Air Conditioning Plant
AA07015	Bearing, Main	AA07141	Heads
4407016	Shaft, Impeller	1407142	Tubes
A407017	Element, Lube Oil Heater	4407143	Sheets, Tube
AA07018	Control, Lube Oil Beater	AA07144	Shell
A40701A	Seals, Shaft	1107150	Controls, Heirigerant Valves and Piping, Air Cond. Plant Valves, Hanual, Globe and Angle
AA07020	Drive Gear Assembly, Hermetic,	AA07151	Valves, Manual, Globe and Angle
4407021	Gear and Shart Assembly, Low	AA07152	Valve, Melief
AA07022	Gear and Shaft Assembly, High	AA07153	Valve, So.enoid
AA07023	Speed Bearings	AA07154	Switch, H.P.
AA07024	Pump, Oil	AA07155	Switch, L.P.
AA07025	3eals	3407156	Switch, Oil Pailure
AA07030	Drive Gear Assembly, Separate,	AA07157	Valve, Float
AA07031	Drive Gear Assembly, Separate, Air Conditioning Plant Gear and Shaft Assembly, Low	AA07160	Controls, Salt Water, Air
AA07032	Speed Gear and Shaft Assembly, High	1407161	Conditioning Plant Switch, Water Failure
AA07033	Speed Bearings	AA07170	Purge Unit, Air Conditioning Plant
AA07034	Pump, Oil	AA07171	Compressor
AA07035	Pilter, Oil	AA07172	Motor A.C. Purge Unit
*1407036	Cooler, Gear Oil	AA07173	Controller, Purge Unit Motor
AA07037	Valve, Relief	AA07174	Drive
AA07040		AA07175	Separator, 011
	Drive, Compressor, Air Conditioning Plant	AA07176	Concentrator
AA07041	Coupling, Flexible	AA07177	Drum, Purge
1407042	Coupling, Solid	AA07178	Indicator, Float and Hoisture
1407043	Direct	A AA0717A	Valve, Relief
1407050	Motor, A.C., Compressor, Air Conditioning Plant	4407178	Valve, Double Float
1407051	Housing, Bearing	AA07 17C	
1407052	dell, END or Brackets, END		Dehydrator
1407053	winding, Coll Slot Section	AA0717D	Switch, H.P.
AA07054	Winding, Coll BND Turns	AA0717E	Thermometer, Water
. \$407055	Hings, Connection	AA07 180	Controls, and Piping Assembly Chilled Later, Air Cond. Plant
1407056	Leads	AA07181	Valve, Solenoid
AA07057	Wedges, Slot	AA07182	Switch, Differential water Pressure Switch, Plow Control
1107058	Boards, Terminal	2207183	
AA0705A	deaters	AA07184	Switch, Thermostat
110705B	Fan, Assembly	AA07200	Coul, Cooling, Duct Type, Air Conditioning Plant Coll, Heating, Duct Type, Air Conditioning Plant Controls, Ambient
AA0705C	Niugs, Balance	4407210	Conditioning Plant
AA0705D	Hings, END	AA07220	
840705E	Slinger	AA07221	Valve, Theraostat Combination Steam
440705F	Bearing Seat, Shaft	AA07222	Control, Humidity
4407060	Controller, Compressor Motor, Air Conditioning Plant Cooler Assembly, Compressor Oil Air Conditioning Plant Core and Plate Assembly	AA07223	Valve, Hagnetic, Steam
1107070	Air Conditioning Plant	AA07224	Thermostat
4407071	Core and Plate Assembly	4407230	Pan, Vanearial and Tubearial
4407080	Motor, Lube Oil Pump, Seperate	AA07231	wheel deres Tarast
AA07100	Controller, Lube Oil Pump Hotor	AA07232	Housing
4407110	Motor, Lube Oil Pump, Seperate Air Conditioning Plant Controller, Lube Oil Pump Motor Air Conditioning Plant Pump, Lube Oil, Separate, Air Conditioning Plant Motor, Presentation Vane Positioner Damper, Air Cond. Hotor, Presentic Assembly	AA07240	notor, A.C., Vancarial and
AA07120	Motor, Prerotation Vane	AA07241	Housing, Bearing
A407121	Notor, Prountic Assembly		

hall all or brackets PMD
bell, and or Brackets, BND
Winding, Coil Slot Section
winding, Coil END Turns
Rings, Connection
Leads
bedges, Slot
Boards, Terminal
deaters
Fan Assembly
kings, Balance
Rings, END
Slinger
Bearing Seat, Shaft
Controller, Vaneaxial and Tubeaxial Fan HTH Air Com Plant Cooler Unit, Air Conditioning
Plant
Coils, Cooling
Wheel Assy, Fan
Housing
Belt
Coupling, Plexible
Hotor, A.C., Cooler Unit, Air Conditioning Plant
Housing, Bearing
Bell, END or Brackets, END
Winding, Coil Slot Section
winding, Coil END Turns
Kings, Connection
Leads
Wedges, Slot
Boards, Terminal
Beaters
Fan Assembly
Rings, Balance
Kings, END
Stinger
Bearing Seat, Shaft
Controller, Motor Cooler Unit,
Pump, Chilled Water, Air Conditioning Plant
Casing
Impellet
Nut, Impeller
key, lepeller
kings, Wearing, Casing
Rings, Wearing, Impeller
busning, Throat
ning, Lautern
Sleeve, Shart
Shalt, Puap
Air Conditioning Plant
Air Conditioning Plant
Housing, Bearing
Hir Conditioning Plant Housing, Bearing Well, END or Brackets, END Winding, Coll Slot Section

AA07315	Rings, Connection
AA07316	Leads
AA07 117	deages, Slot
AA07.118	Boards, Terminal
AA07.51A	neaters
AA07 316	ran, Assembly
AA0731C	hings, Balance
AA0731D	Rings, END
AA0731E	Slinger
AA0731F	Bearing, Seat, Shaft
AAU7320	Controller, Chilled water Pump
	Motor. All Conditioning Plant
AA07330	Conditioning Plant
AA07331	Belt
AA07332	Coupling, Flexible
AA07333	Coupling, Solid
AA07334	Direct
AA07340	Pump, Salt Water, Air Conditioning Plant
AA07341	Casing
	impeller
AA07343	Nut, impeller
AA07344	key, impeller eings, Wearing, Casing
AAU7345	
AA07347	aings, wearing, impeller Busning, Throat
AA07347	
AA0734A	dings, Lantern
	Sleeve, Shart
AA07348	Shart, Pump
AA07351	Motor, A.C., Salt Water Pump, Air Conditioning Plant Housing, Hearing
AA07351	Bell, END or Brackets, SND
AA07352	Winding, Coil Slot Section
AA07354	dinding, Coil END Turns
AA07355	Kings, Connection
AA07356	Leads
AA07357	dedges, Slot
AA07358	Boards, Terminal
AA0735A	Heaters
AA07358	Fan Assembly
AA0735C	Rings, Balance
AA0735D	Rings, END
AA0735E	Slinger
AA0735F	dearing Seat, Shaft
AAU7360	
AAU7370	Controller, Salt Water Pump Motor, Air Conditioning Plant Drive, Salt Water Pump, Air Conditioning Plant
AA07371	Conditioning Plant
AA07372	Coupling, Plexible
4407373	Coupling, Solid
1407374	Direct
AA07380	Filter, Air, Air Conditioning
	Plant

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AM18000
AB18010
AB18020
            aod, Cossecting
A # 180 30
            Sedl, Oil, Crankshaft
AB18040
            Bearing, Main
            Bearing, Connecting fod
AB18050
AB18060
            Bearing, wrist Pin
            Pin, Wrist
AB18070
4518060
            Crossbeads
AB18 100
            sods, Piston
A#18110
            Piston
AB18120
            Rings, Piston
AB16130
            Liners or Guides, Crosshead
            Cylinders
AB18140
A 618 150
            Liner, Cyanader
A £ 1 6 160
            Valves, Cylinder Intake
            Valves, Cylinder Discharge
AE'8170
AB18180
            Beads, Cylinder
AB18200
            Packing, Piston Rod
            Silencer and Pilter, Intake
AB18210
            Intercooler, Pirst Stage
AB18220
            Intercooler, Second Stage
AB18230
AB18240
            Intercooler, Third Stage
AB18250
            Intercooler, Fourth Stage
AB18260
            Intercooler, Fifth Stage
AB18270
            Cooler, After
            Separator, Moisture, Interstage
AB18280
AB18300
            Separator, Moisture, After Cooler
AB18310
            Valve, Relief, Air Side
            Valve, Relief, Cooling Water Side
AB18320
AB18330
            Valves, Blowdown, Separator
            Blowdown System, Components,
Automatic
Unloading System, Components
A$18340
AB18350
            Imbrication System, Toliader,
AB18360
            Components.
Pump, Lube Oil Circulating
AB18370
AB18380
            Cooler, Lube Oil
            Pilter, Lube Oil
AB18400
            Valve, Control, Lube Oil Pressure
AB18410
AB18420
AB18430
            Valve, Plow Control, Thermostatic,
Cooling Water
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ACCOCCO AUXILIARY SISTEMS, ENGINEERING ACCOCCO AIR COMPRESSOR. LOW AND INTERMEDIATE PRESSURE

```
COMPRESSOR, Alk, L. P. AND I. P. BECIPHOCATING Crankshaft
AC01000
ACO 10 10
AC01020
            Rod, Connecting
AC01030
            Seal, Oil, Crankshaft
AC01040
            Bearing, Main
AC01050
            Bearing, Connecting Rod
AC01060
            Bearing, Wrist Pin
AC0 1070
            Pin, Wrist
AC01080
            Crossbead
AC01100
            Rods, Piston
AC01110
            Piston
AC01120
            Bings, Piston
AC01130
            Liners or Guides, Cross Head
AC01140
            Cylinders
AC01150
            Liners, Cylinder
AC01160
            Valves, Cylinder, intake
AC01170
            Valves, Cylinders, Discharge
AC01180
            Heads, Cylinder
AC01200
            Packing, Piston Rod
AC01210
            Silencer and Pilter, Istake
            Intercooler
AC01220
AC01230
            Aftercooler
ACD1240
            Separator, Boisture Interstage
AC01250
            Separator, Moisture Aftercooler
AC01260
            Valve, Helief, Air Side
AC01270
            Valve, Relief, Cooling Water Side
AC01280
            Valves, Blow Down, Separator
AC01300
            Unloading, System Components
AC01310
             Lutrication System Components,
            Cylinder
Pump, Lube Oil Circulating
AC01320
AC01330
            Cooler, Lube Oil
AC01340
            Filter, Lube Oil
AC01350
            Thermometer
AC01360
            Pump, Circulating, Cooling Water
AC01370
            Valve, Thermostatic, Cooling
Water, Plow Control
Switch, Pressure
AC01380
AC01400
            Gage, Pressure
AC01410
            Pilter and Silencer, Intake
AC01420
             Valve, Lube Oil Pressure Control
AC01430
             Valve, Belief, Air
AC01440
AC01450
             Valve, Relief, Water
             Valve, Solenoid
AC01460
AC01470
             Valve, Water Control
AC01480
             Pan, Cooling Assembly
             Switch, Temperature
 AC01500
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AUXILIARY SYSTEMS, ENGINEERING AIR COMPRESSOR, LOW AND INTERNEDIATE PRESSURE

AC10000 COMPRESSOR, AIR, L.P. AND 1.	
MOLTIPHASE CONTROL	
AC10010 Compressor	
AC10011 Head	
AC10012 Botor	
AC10013 Lobe	
AC10014 Seal, Shaft	
AC10020 Separator	
AC10021 Glass, Sight Gage	
AC10030 Manifold, Assembly	
AC10040 Valve, Seal Pressure Contro)1
100050 Filter, Mir Talet	
AC10060 Silencer, Inlet	
AC10070 Valve, Blowdown Air, Quick	Release
AC10080 Valve, Pressure Control	
AC10100 Strainer, Water	V. Saine
AC10110 Gage, Temperature	
AC10120 Gage, Pressure	
AC10130 Cooler, Fresh Water	
AC10140 Trap, Automatic Prais	

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AC43000 Compressor, Air Ballast Blowing

AUXILIARY STATEME, RUGIDERRIUG DISTILLING PLANTS

- AB01000	DISTILLING PLANT, LOS PRESSURE SUBBERGED TUBE OF BASKET		AB0 1 170	Motor, A.C. Pump, Vacuum, Distilling Plant, L.P. Housing, Bearing
AE01010	Ivaporator		AB01171	
AE01011	Shell		AB01172	Bell, BND or Brackets, BND
AE01012	Cover, Shell		AB01173	Winding, Coil Slot Section
AB0 1013	Plate, Division, Shell		AB01174	Winding, Coil BBD Turns
A501014	Internals, Shell		AB01175	Bings, Connection
AE01015	Head, Safety, Shell		AB01176	Leads
ARO 10 16	Control, Level		AB01177	Wedges, Slot
AE0 1020	Bundle, Tube		AE01178	Boards, Terminal
AB0 1021	Tube		AB0117A	Beaters
AB0 1022	Sheet, Tube		AB0117B	Pan, Assembly
A BO 1023	Waterbox		AE0117C	Rings, Balance
ABO 1030	Basket		AB0117D	Rings, END
AB01040	Chest, Steam		AB01178	Slinger
AE01050	Separators, Vapor, Book		AB0117F	Bearing Seat, Shaft
AB0 1051	Plate, Brapper		AB01180	Motor, D.C., Pump, Vacuum, Distilling Plant, L.P. Housing, Bearing
AE01060	Separators, Vapor, Bire Besh		AE01181	
AB0 1070	Heater, Vapor Feed		AB01182	Rells, END or Brackets, END
AE01071	Tube		AB01183	Heaters
₽801072	Sheet, Tube		AF01184	Brush Rigging, Assembly
AB0 1073	Waterbox		AE01185	Winding, Series
AE01080	Condenser, Distiller		AB01186	Winding, Shurt
AB01081 .	Shell		AB01187	Winding, Commutating
AE01082	Tube		AB01188	Leads
AE01083	Sheet, Tube		AB0 1 18A	Boards, Terminal
AB01084	Waterbox		AB0118B	Trip, Overspeed
AB0 1100	Cooler, Distillate		AB0118C	Fan, Assembly
AE01101	Shell		AB0118D	Bearing Seat Shaft
AB01102	Tube		AB01182	Rings, Balance
AB01103	Sheet, Tube		AB0118G	Commutator
A 80 1 104	Waterbox		AE0118H	Winding, Coil Slot Section
AB01105	Core, Plate or Strat Tabe		AB0118J	Winding, Coil BND Turns
AR01110	Ejector, Air		ABO 1 18K	Winding, Equalizer
AB01111	Mozzle		AB0118L	Wedges, Slot
AB01112	Strainer, Steam		AB0118H	Banding
AB01113	Chest, Steam		AB01200	Controller, Vacuum Pump, Distilling Plant, L.P. Pump, Circulating, Distiller
AE01114	Shell, Condenser		AB01210	Pump, Circulating, Distiller
AB01115	Shell, Internals		AB01211	Casing
AB01116	Baffle, Impingement		AB01212	Impeller
AB01117	Tube		AB0 1213	Nut, Impeller
AE01118	Sheet, Tube		AB01214	Key, Impeller
AB0111A	Vaterbox		AB01215	Rings, Wearing, Casing
AB01120	Eductor, Air Removal		AB01216	Rings, Wearing, Impeller
ABO 1 130	Eductor, Brine Removal		AB01217	Bushing, Throat
AB01140	Regulator, Drain, First Effect		AB01218	Bing, Lantern
ABO 1150	Regulator, Drain, Inter Effect			
AB01161	Plate, Port			
AB01162	Lobe			
A201163	Potor	-		ADIE CODY
				101 - 00011

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AE01164

Valve, Prining

AB0121A	Sleeve, Shaft	AE01267	Wedges, Slot
AB0121B	Sheft, Pump	AE01268	Boards, terminal
AB01220	Botor, A.C. Pump, Circulating,	AE0126A	Heaters
AB01222	Bell, END or Brackets, END	AE0126B	Pan Assembly
AB01223	Winding, Coil Slot Section	AE0126C	Rings, Balance
AB01224	Winding, Coil BND Turas	AE0 126D	Bings, END
AB0 1225	Bings, Connection	AE0126E	Slinger
AB01226	Leads	AE0 : 26P	Bearing Seat, Shaft
ABO 1227	Wedges, Slot	AE01270	Motor, D.C., Pump, Feed, Distiller
AB01228	Boards, Terminal	AB01271	Housing, Bearing
AB0122A	Heaters	AB01272	Bells, END or Brackets, END
ABO 122B	Pan Assembly	AE01273	Heaters
AB0 122C	Bings, Balance	AE0 1274	Brush Ligging, Assembly
AB0122D	Bings, END	AE0 1275	Winding, Series
AB0122B	Slinger	AE01276	Winding, Shunt
AB0122F	Bearing Seat, Shaft	1201277	Winding, Commutating
AB0 1230	Motor, D.C., Pump, Circulating, Distiller	AE0 1278	Leads
AE0 1231	Distiller Housing, Bearing	AE0127A	Boards, Terminal
AB0 1232	Bells, BND or Brackets, END	AB0 127B	Trip, Overspeed
AB01233	Heaters	▲B0127C	Pan Assembly
AB0 1234	Brush Rigging, Assembly	AE0127D	Slinger
AE0 1235	Winding, Series	▲E0127E	Bearing Seat, Shaft
AB01236	Winding, Shunt	AE0127F	Rings, Balance
ABO 1237	Winding, Commutating	AE0127G	Consutator
AE01238	Leads	A EO 127H	Winding, Coil Slot Section
AB0 123A	Boards, Terminal	AE0127J	Winding, Coil END Turns
AB0 123B	Trip, Overspeed	AE0127K	Winding, Equalizer
AB0123C	Pan Assembly	A 20 127L	Wedges, Slot
AB0123D	Slinger	ABO 1278	Banding
AB0123B	Bearing Seat, Shaft	Ab01280	Controller, Pump, Feed, Distiller
ARO 123F	Bearing Seat, Shaft Bings, Balance Commutator Winding, Coil Slot Section Winding, Coil BND Turns Winding, Equalizer	AE01300	Pump, Tube West Drain, Distiller
AB01236	Consutator	AB01301	Casing
AB01238	Winding, Coil Slot Section	AE01302	Impeller
AE0123J	Winding, Coil BND Turns	AB01303	Nut, Impeller
AB0123K	Winding, Equalizer	AE01304	Key, Impeller
AB0123L	Wedges, Slot	1 AE01305	Bings, Wearing, Casing
AB01238	Banding	AE01306	Rings, Wearing, Impeller
AE01240	Controller, Botor, Circulating	AE01307	Bushing, Throat
AE01250	Controller, Botor, Circulating Pump, Distiller Pump, Feed, Distiller	D AE01308	Ring, Lantern
AE01251	Casing	AEO 130A	Sleeve, Shaft
AB0 1253	Nut, Impeller	AE0130B	Shaft, Pump
AB01254	Key, Impeller	AB01310	
AB01255	Bings, Wearing, Casing	AB01311	Motor, A.C. Pump, Tube West Drain, Distiller Housing, Bearing
AB01256	Rings, Wearing, Impeller	AB01312	Bell, END or Brackets, END
AB01257	Bushing, Throat	AE01313	Winding, Coil Slot Section
A&0 1258	Ring, Lantern	AE01314	Winding, Coil BND Turns
AB0125A	Sleeve, Shaft	Ab01315	Rings, Connection
AB0125B	Shaft, Pump	AE0 13 16	Leads
4501260	Motor, A.C., Pump, Peed, Distiller	AB01317	Wedges, Slot
AE0 1261	Housing, Bearing	AB01318	Boards, Terminal
AE01262	Bell, END or Brackets, END	AE0131A	Heaters
AB01263	Winding, Coil Slot Section	AB0131B	Fan Assembly
AE01264	winding, Coil BND Turns	AB0131C	kings, Balance
AE01265		AB0131D	Mings, BMD
AL01266	Leads	AB0131E	Slinger
	The state of the s	AB01312	
		201315	Bearing Seat, Shaft

DISTILLING PLANT, LOW PRESSURE SUBMERGED TUBE OR BASKET (Continued)

E01320	Botor, D.C., Pump, Tube Nest Drain, Distiller Housing, Bearing	AE01406	Leads
E01321	Housing, Bearing	ARC:407	Wedges, Slot
E01322	Bells, END or Brackets, END	AB01408	Boards, Terminal
201323	Heaters	AE0140A	Heaters
B01324	Brush Higging, Assembly	AB0140B	Pan Assembly
E0 1325	Winding, Series	AB0 140C	Bings, Balance
E0 1326	Winding, Shent	AB0140D	Rings, END
E01327	Winding, Commutating	AE0140E	Slinger
E01328	Leads	AB0140P	Bearing Seat, Shaft
E0 132A	Boards, Terminal	AB01410	Botor, D.C., Pusp, Fresh Water, Distiller
E01328	Trip, Overspeed	AE01411	Housing Bearing
£0132C	Pan Assembly	AE01412	Bells, END or Brackets, END
E0132D	Slinger	A 80 14 13	Heaters
E0132E	Bearing Seat, Shaft	ABO 14 14	Brush Rigging, Assembly
E0132F	Rings, Balance	AE01415	Winding, Series
£01326	Commutator	ABO 1416	Winding, Shunt
BO 132H	Winding, Coil Slot Section	AB0 14 17	Winding, Commutating
B0132J	Winding, Coil BND Turns	AE01418	Leads
E0 132K	Winding, Equalizer	ABO 141A	Boards, Terminal
E0132L	Wedges, Slot	AB0 14 1B	Trip, Overspeed
E0132H	Banding	AB0 141C	Pan Assembly
E0 1330	Controller, Motor, Tube Nest Drain Pump, Distiller	AE0141D	Slinger
E01340	Drain Pump, Distiller Pump, Distillate, Distiller	AE0 14 1B	Bearing Seat, Shaft
E01341	Casing	ABO 141P	Rings, Balance
E01342	Impeller	AE0 141G	Commutator
B01343	Nut, Impeller	AB0 14 1H	Winding, Coil Slot Section
E01344	Key, Impeller	AB0 1361	Housing, Bearing
B01345	Bings, Wearing, Casing	AB01362	Bells, END or Brackets, BND
E01346	Hings, Wearing, Impeller	AB01363	Heaters
E01347	Bushing, Throat	AE01364	Brush Bigging, Assembly
E01348	Bing, Lantern	AB01365	Winding, Series
E0134A	Sleeve, Shaft	AB01366	Winding, Shant
E01348	Shart, Pump	AE01367	Winding, Consutating
E01350		AB01368	Leads
E01351	Motor, A.C. Pump, Distillate, Distiller Housing, Bearing	AB0136A	Boards, Terminal
B0 1352	Bell, END or Brackets, END	AE0136B	Trip, Overspeed
E01353	Winding, Coil Slot Section	AB0136C	Pan Assembly
E01354	Winding, Coil BND Turns	AB0136D	Slinger
E0 1354		AB0136B	Bearing Seat, Shaft
E0 1355	Rings, Connection . Leads	AB0136P	Rings, Balance
E0 1356	Wedges, Slot	AB0136G	Commutator
E01357	Bedges, Slot Boards, Terminal	AR0136E	Winding, Coil Slot Section
E01358		AE0136J	Winding, Coil BND Turns
	Heaters	ABO 136K	Winding, Equalizer
E01358	Pan Assembly	AB0 136L	Wedges, Slot
E0 135C	Riugs, Balance	AB01368	Banding
BO 135D	Rings, END	AE01370	
EC135E	Slinger	AB0 1380	Controller, Motor, Distillate Pump, Distiller Pump, Fresh Water, Distiller
BO 135P	Bearing Seat, Shaft	AB01381	Casing
E01360	Hotor, D.C., Pump, Distillate, Distiller Hotor, A.C., Pump, Fresh Water, Distiller	AB0 1382	Impeller
B01400	Distifler	AB0 1383	Nut, Impeller
E01401	Housing, Bearing	AE01384	Key, Impeller
B01402	Bell, END or Brackets, END	AE01385	Bings, Wearing, Casing
E01403	Winding, Coil Slot Section	AE01385	
E0 1404	Winding, Coil BND Turns		Bings, Wearing, Impeller
BO 1405	Rings, Connection	AB01387	Bushing, Throat
		A BO 1388	Ring, Lantern
		A#0138A	Sleeve, Shaft

	STILLING PLANT, LOW PRESSURE	AE01470	Pubp. Low Pressure Brine
A20141J	Winding, Coil END Turns	AE01471	Casing
ABO 14 1K	Winding, Equalizer	AB01472	Ispeller
ABO 14 1L	Wedges, Slot	AB0 1473	Nut, Impeller
A EO 141E	Banding	ABO 1474	Key, Impeller
AB0 1420	Controller, Motor, Presh Water, Pump, Distiller	AB01475	Bushing, Throat
AB0 1430	Pump, Brine Overboard, Distiller	AE01476	
AB0 1431	Casing	AB01477	
A BO 1432	Impeller		Sleeve, Shaft
ABO 1433	Mut, Impeller	AE01478	Shart, Pump
A BO 1434	Key, Impeller	AE01480	Motor Pump, Low Pressure Brine
A BO 1435	Rings, Wearing, Casing	A EO 1481	Housing, Bearing
A BO 1436	Rings, Wearing, Impeller	AB01482	Bell, END or Brackets, END
AB0 1437	Bushing, Throat	AE01483	binding, Coil Slot Section
AB01438	Ring, Lantern	AB01484	Winding, Coil BND Turns
ABO 143A	Sleeve, Shaft	AE01485	Hings, Connection
AB0143B	Shaft, Pump	AE01486	Leads
A BO 1440	Botor, A.C., Pump, Brine	AE0 1487	Wedges, Slot
AB01441	Motor, A.C., Pump, Brine Overboard, Distiller Housing, Bearing	AE01488	Boards, Terminal
AB01442	Bell, END or Brackets, END	AE0148A	Heaters
AB0 1443	Winding, Coil Slot Section	AE0148B	Fan Assembly
BO 1444	Winding, Coil END Turns	AE0148D	Rings, END
ABO 1445	Rings, Connection	AE0148E	Slinger
BO 1446	Leads	AE0148P	Bearing Seat, Shaft
AE01447		AE0 1500	Coutroller, Motor, Low Pressure
	Redges, Slot	AE01510	Brine Pump Pump, Hagevap, Evaporator Feed Water Treatment
ABO 1448	Boards, Terminal	AE01511	Vater Treatment Cylinder
AB0144A	Heaters	AE01512	Valve Check Assembly
AE0144B	Pan Assembly	A£01513	Prane
ABO 144C	Rings, Balance	AE01514	Pluager Assembly
ABO 144D	Rings, END	AE0 15 15	Piston Assembly
ABO 144B	Slinger	AE01516	Rod Connection
AE0144P	Bearing Seat, Shaft	AE0152€	
AB01450	Motor, D.C., Pump, Brine Overboard, Distiller	AB01521	Reducer, Speed, Pump, Hagevar, Evap Feed Vater Housing
AB01451	Housing, Bearing	AE01522	Shart. Worm
AE01452	Bells, END or Brackets, END		Gear. Slow Speed
A BO 1453	Heaters	AE01523	
AE01454	Brush Rigging, Assembly	AE01524	Shaft, Slow Speed Bearing, Cone Assembly
AB01455	Winding, Series	AE01525	
AB0 1456	Winding, Shunt	AE0 1526	Coupling, Reducer Assembly
A 80 1457	Winding, Commutating	AE01527	Coupling, Flexible
A BO 1458	Leads	AE01530	Hotor, A. C., Pump, Hagewap, Evap
A E 0 1 4 5 A	Boards, Terminal	AE01531	nousing, hearing
A EU 145B	Trip, Overspeed	AE01533	Winding, Coil Slot Section
4 80 145C	Pan Assembly	AE01534	Winding, Coil END Turns
A 20145D	Slinger	AE0 1535	Rings, Connection
ABQ145B	Bearing Seat, Shaft	· AB01536	Leads
		AE01537	Wedges, Slot
AE0145P	Rings, Balance	*****	wedges, stot
A E O 145P A E O 145G	Bings, Balance Commutator	AE0 1538	Boards, Terminal

Shaft, Bearing Seat

Pan Assembly

Rings, END

Slinger

wings, Balance

AE0153B

AE0 153C

A E0 1530

ABO153E

AE0145J

AB0 145K

AB0 145L

A 201458

AE0 1460

Winding, Coil BND Turns

Controller, Hotor, Brine Overboard Pump, Distiller

Winding, Equalizer

Wedges, Slot

Banding

AB01540	Motor. D. C., Punn. Bagavan. Eval	A 80 1680	Valve, Ball
AB01541	Botor, D. C., Pump, Bagevap, Evap Feed Bater Housing, Bearing	AB01681	Ball
AB01542	Bells, END or Brackets, SND	AB01682	Seat
AE01543	Heaters	AND 1683	Seat, Seals
AE01544	Brush Rigging, Assembly	AX01684	Bearing, Upper & Lower
AE)1545	Einaing, Series	AE01685	Stem
AE01546	Winding, Shunt	AE0 1686	Seals, Stem
AE01547	Winding, Commutating	AE01687	Springs, Seat
AE01548	Leads	AE01688	Bearing, Thrust
AE0 154A	Boards, Terminal	AB01700	Valve, Check
AE0 154B	Trip, Overspeed	AE01701	Disc
AE0154C	Pan Assembly	AE0 1702	Seat
AE0154D	Slinger	ABO 1710	Valve Needle
AE01548	Shaft, Bearing Seat	AB01720	Strainer
AE0154F	Rings, Balance	AE01730	Filter
AE0 1546	Connutator	AE01731	Element
A 80 154H	Winging, Coil Slot Section	AE01740	Valve, 3 Way
AE0154J	Winding, Coil BND Turns	AE01741	Diaphrage
AKO 154K	Winding, Equalizer	AL0 1742	Disc
AE0154L	Wedges, Slot	AE01743	Seat
AE01548	Banding	AE01744	Stea
AE01550	Controller, Motor, Hagewap, Evap Feed Water Pump	A E 0 1745	Spring
A201560	Feed Water Pump Tank, Brine	AE01750	Valve, Meducing
AB0 1570	Tank, Distillate Test	AE01751	Diaphrage
AB01571	Glass, Gage	AE01752	Disc
ABU1580	Tank, Hagevap	AE01753	Seat
AE0 1581	Glass, Gage	AE01754	Piston, Ring
AB01600	Meter, Presh Water	A£01755	Stem
AE01610	Indicator, Salimity	AE01756	Spring
AB01611	Panel	AE01760	Cell, Salinity
A #0 16 12	Cell Cell	AE01770	Gages
AB01620	Valve, Weight Loaded Regulator	AE01771	Pressure
AE01630	Valve, Spring Loaded, Back	AE01772	Compound
AE01640	Valve, Solemoid Trip, Distillate	AE01773	Difrerential
AB01650	Valve, Steam, Pressure Regulating	AE01780	Thermometer
AB01660	Piping, Distilling Plant	AE01800	Switch, Pressure
AB01670	Valve, Globe & Angle	A E 0 18 10	Heter, Water
AE01671	Stee Stee	AE0 1820	Rotaneter
AB01672	Disc		
AE0 1673	Seat		
AB01674	Bushing, Sten		
A 80 1675	Insert		



AUXILIANY STSTEES, ENGINEERING BEST AVAILABLE COPY

- AB02000	DISTILLING PLANT, LOW PRESSURE	AB0 2 105	Rings, Connection
AB02010	Evaporator	AB02107	Wedges, Slot
AB02011	Shell	AB02108	Boards, Terminal
AB02012	Cover, Shell	AB0210A	Beaters
AB02013	Plate, Division, Shell	AB0210B	Pan Asseably
AE02014	Internals, Shell	AB0210C	Rings, Balance
AB02015	Head, Safety, Shell	AB0210D	Bings, END
· AE02016	Box, Feed Distribution or Battles	AB0210E	Slinger
AB02017	Vapor Separators, Mook	AB0210F	Bearing Seat, Shaft
AB02018	Vapor Separators, Wire Mesh	AB02110	Motor, DC, Pusp, Prising, SW Circ, Distilling Plant
AB02019	Zincs, Evaporator, Plash Type	AB02111	Housing, Bearing
, 1802020	Condenser, Stage	AB02112	Bells, END or Brackets, END
AB02021	Tube	AB02113	Beaters
AB02022	Sheet, Tube	AB02114	Brush Rigging, Assembly
AB02023	Waterbox	AB02115	Winding, Series
AB02030	Cooler, Distillate	AB02116	Winding, Shunt
AB02031	Shell .	AB02117	Winding, Commutating
AB02032	Tube	AB02118	Leads
AE02033	Sheet, Tube	AB0211A	Boards, Terminal
AB02034	Waterbox	AB0211B	Trip, Overspeed
AB02035	Core, Plate or Strut Tube	AB0211C	Pan Assembly
A 80 20 40	Bjector, Air	AF0211D	Slinger
1802041	Nozzle	AB0211E	Bearing Seat, Shaft
AB02042	Strainer, Steam	AB0211F	Rings, Balance
AB02043	Chest, Steam	AB02116	Consutator
AB02044	Sheli, Condenser	AB02118	Winding, Coil Slot Section
AB02045	Shell, Internals	AB0211J	Winding, Coil BND Turns
AB02046	Baffle, Impingement	AB0211K	Winding, Equalizer
, 1802047	Tube	AB0211L	Wedges, Slot
AE02048	Sheet, Tube	AB02118	Banding
AE0204A	Waterbox	AB02120	Controller, Motor, SW Circ Priming Pump, Distilling Plant
AE02050	Eductor, Air Removal	AB02130	Pump, Evaporator Feed, Distilling Plant
AE02060	Eductor, Brine Removal	AB02131	Casing
A 802070	Heater, Salt Water	AB02132	Impeller
AE02071	Shell	AB02133	Nut, Impeller
AB02072	Battle, Impingement	AB02134	Key, Ispeller
45020,3	Tube	AB02135	Rings, Wearing, Casing
A502074	Sheet, Tube	AB02136	* Rings, Wearing, Impeller
AB02075	Vaterbox	AE02137	Bushing, Throat
AB02076	Regulator, Drain	AB02138	Bing, Lantern
AB02080	Pump, Priming, S.W. Circ, Distilling Plant Port, Plate	AE0213A	Sleeve, Shaft
AB02081	Port, Plate	AB0213B	Shaft, Pump
AE02082	Lobe Manual of Capacita	AE02140	Motor, A.C., Pump, Evaporator Peed, Distilling Plant Housing, Bearing
AB02083	Botor	AB02141	
AB02084	Sleeve, Shaft	AB02142	Bell, END or Brackets, END
AB02085	Valve, Priming	AB02143	Winding, Coil Slot Section
A #02 100	Motor, A.C. Pump Priming, S.W. Circ, Distilling Plant Housing, Bearing	AB02144	Winding, Coil END Turns
AB02101		AB02145	Rings, Connection
AB02102	Sell, END or Brackets, AND	AB02146	Leads (Inches as a Service
_ AE02103	Winding, Coil Slot Section	AB02147	Wedges, Slot
AB02104	Winding, Coil BED Turns	AB02148	Boards, Tersisal

	Beaters	AB02200	Drain, Distilling Plant
148	Pan Asseably	AB02201	Mousing, Bearing
14C	Rings, Balance	1802202	Bells, BND or Brackets, END
4D	Bings, END	AB02203	Beaters
4E	Slinger	AB02204	Brush Rigging, Assembly
47	Bearing Seat, Shaft	AE02205	Winding, Series
50	Motor, D.C. Puap, Evaporator Feed, Distilling Plant	A202206	Winding, Shunt
51	Housing, Bearing	AB02207	Winding, Commutating
52	Bells, END or Stackets, END	AB02208	Leads
53	Heaters	AB0220A	Boards, Terminal
54	Brush Bigging, Assembly	AB0220B	Trip, Overspeed
55	Winding, Series	AB0220C	Pan Assembly
56	Winding, Shunt	AB0220D	Slinger
157	Winding, Consutating	AB0220E	Bearing Seat, Shaft
158	Leads	AB0220F	Bings, Balance
54	Boards, Terminal	AB0220G	Commutator
5B	Trip, Overspeed	AB0220H	Winding, Coil Slot Section
5C	Fan Assembly	AB0220J	Winding, Coil END Turns
15D	Slinger	AB0220K	Winding, Equalizer
15E	Bearing Seat, Shaft	AB0220L	Wedges, Slot
157	Rings, Balance	A40220a	Danikay
15G	Commutator	AB02210	Controller, Motor, SW Heater Drain Pump, Distilling Plant Pump Distillate Distilling Plant
158	Winding, Coil Slot Section	AB02220	Pump Distillate Distilling Plant
153	Winding, Coil ZWD Turns	AB02221	Casing
15K	Winding, Equalizer	AB02222	Impeller
15L	Wedges, Slot	AB02223	Nut, Impeller
151	Banding	1202224	Key, Impeller
160	Controller, Motor, Evaporator Feed Pump, Distilling Plant	AB02225	Rings, Wearing, Casing
170	Pump, S. W. Heater Drain, Distilling Plant	AB02226	Bings, Wearing, Impeller
171	Casing	AB02227	Bushing, Throat
172	Ispeller	AB02228	Ring, Lantern
173	Nut, Impeller	AB0222A	Sleeve, Shaft
174	Key, Impeller	AB0222B	Shaft, Pump
175	Rings, Wearing, Casing	AB0222C	Bearing, Ball Assembly
176	Bushing, Throat	AB0222D	Coupling Assembly
177	Bing, Lantern	AB02230	Motor, AC, Pump, Distillate, Distilling Plant
178	Sleeve, Shaft	AB02231	nousing, searing
174	Shaft, Pump	AE02232	Bell, RND or Brackets, END
17B	Ispeller, Other	AB02233	Winding, Coil Slot Section
17C	Coupling, Assembly	AB02234	Winding, Coil BND Turns
170	Bearing	AB02235	Bings, Connection
178	Bearing, Ball Assembly	- 450 2236	Leads
180	Hotor, AC, Pump, SB Heater Drain, Distilling Plant Housing, Rearing	AB02237	Vesges, Slot
181		AB02238	Poards, Terminal
182	Bell, END or Brackets, END	AB0223A	Baters
183	Sinding, Coil Slot Section	AB0223B	Pan Assembly
184	minding, Coil BED Turns	480223C	Rings, Ralance
185	Bings, Connection	180223D	Hings, BND
186	Leads	AB0223E	Slinger
187	Wedges, Slot	A #0 223F	Bearing Seat, Shaft
188	Boards, Tersinal		
181	Beaters	SECT AV	AILABLE COPY
188	ren Assembly	ILM AV	All AKIF I IIV
18C	Bings, Balance		HUNDLE LIFT

A-56

AB02182

Searing Seat, Shaft

	AE02000 LOW PRESSURE FLASH	TYPE DISTI	LLING PLANT (Continued)
AB02240	Distifing Play, Distillate,	1302206	Winding, Shunt
AB02241	Bossing, bosting	AB02287	Vinding, Consutating
AB02242	Rells, 230 or Brackets, AND	AB02288	Leads account country SLISSES
AB02243	Heaters	A802281	Boards, Tersisal
AB02244	Brush Rigging, Assembly	AB02268	Trip, Overspeed
AB02245	Winding, Series	A80228C	Fan, Assembly
AB02246	Winding, Shunt	AB0228D	Slinger
AB02247	Vinding, Consutating	AB0228E	Bearing Seat, Shaft
1802248	Leads	AM02287	Rings, Balance
4802241	Poards, Terminal	AB02286	Consutator
AB0224B	Trip, Overspeed	AB0228E	Winding, Coil Slot Section
A10224C	Fan Assembly	AB0228J	Winding, Coil BND Turns
A80224D	Slinger	AB0228K	Vinding, Equaliser
A80224E	Bearing Seat, Shaft	AB0228L	Wedges, Slot
AB0224P	Rings, Balance	AB02288	Banding
AB02246	Commutator	AN02300	Controller, Sotor, Proch Water
AB0224H	Winding, Coil Slot Section	AB02310	Pump, Distilling Plant Pump, Brine Overboard, Distiller
AB0224J	Winding, Coil BMD Turns	AB02311	Casing
AB0224K	Winding, Equalizer	AB02312	Ispeller
AB02241	Tedges, Slot	AB02313	Nut, Impeller
AB02248	Fanding	AE02314	Key, Impeller
AB02250		AB02315	Bings, Wearing, Casing
AB02260	Controller, Motor, Distillate Pump, Distilling Plant Pump Presh Water, Distilling Plant	AB02316	sings, Wearing, Impeller
AB02261	Casing	AB02317	Bushing, Thront
AB02262	Ispeller	AB02318	Bing, Lantern
AB02263	Sut, Ispeller	AB0231A	Sleeve, Shaft
AB02264	Key, Ispeller	AB0231B	Shatt, Pump
AB02265	Rings, Wearing, Casing	AB02320	
AB02267	Bushing, Threat	A902321	Motor, AC, Pump, Brine Overboard, Distiller housing, Bearing
AB02268	Ring, Lantern	AB02322	Bell, END or Brackets, END
AB0226A	Sleeve, Shaft	AM0 2323	Winding, Coil Slot Section
AB0226B	Shaft, Pusp	AB02324	Wanding, Coil BED Turns
AB02270			
AB02271	Hotor, AC, Pump, Presh Water, Distilling Plant Housing, Bearing	AB02325	Rings, Connection
1802272		AB02326	Leads
	Bell, BND or Brackets, BND	AB02327	Wedges, Slot
AB02273	Winding, Coil Slot Section	A802J28	Boards, Terminal
1802274	Winding, Coil SED Turas	AB0232A	Heaters
AB02275	Sings, Connection	A86232B	Pan, Assembly
AB02276	Leads	AB0232C	Rings, Balance
AB02277	Wedges, Slot	AB0232D	Rings, BND
AB02278	Boards, Terminal	AB0232E	Slinger
AB0227A	Beaters	AB0232F	Bearing Seat, Shaft
AB02278	Fan Assembly	AB02330	Motor, D.C. Pump, Brine Overboard, Distiller
AB0227C	Rings, Balance	AB02331	Housing, Bearing
AB0227D	Rings, BBD	AB02332	Relie, RWD or Brackets, END
AB02278	Slinger	AB02333	Heaters
AB02277	Shaft, Bearing Seat	AB02334	Brash Rigging, Assembly
AB02280	Motor, D.C.Pump, Fresh Water, Distilling Plant Bousing, Bearing	AB02335	Finding, Series
AB02281		AB02336	Winding, Shunt
AB02282	Bells BWD or Brackets, BWD	AB02337	Winding, Commutating
AB02283	Seaters	AB02338	Leads
AR02284	Brush Rigging, Assembly	AB0233A	Boards, Terminal
AR02285	Vinding, Series	AB02338	Zrip, Overspeed

10233D	Slinger		AB02426	Winding, Shunt
20233E	Bearing Seat, Shaft		AB02427	Winding, Commutating
10233F	Bings, Balance		AB02428	Leads
10233G	Cossutator		A 80242A	Boards, Terminal
10233H	winding, Coil Slot Section		A80242B	Trip, Overspeed
10233J	winding, Coil END Turns		AB0242C	Pan, Assembly
80233K	Winding, Equalizer		AB0242D	Slinger
10233L	Wedges, Slot		A 80 24 2E	Bearing Seat, Shaft
10233H	banding		AB0242F	Rings, Balance
102340	ontroller, Motor, Brine		AE0242G	Commutator
	ontroller, Distillate Pump		AE0242H	Winding, Coil Slot Section
202351	Coil		AB0242J	winding, Coil END Turns
802352	Contacts, Howing		A 80242K	Winding, Equalizer
02353	Contacts, Stationary		110242L	Wedyes, Slot
802354	Overload		AE02428	banding
	iping	7	AB02430	Controller, Motor, Hagevap, Feed Water Treatment, Dist. Pump Trank, Distillate Test
E02361	Thermometers		AE02440	Trank, Distillate Test
802362	Gages		AB02441	Glass, Gage
102363	Strainer		AB02450	lank, Hagevap
102364	Valves, General		AB02451	Glass, Gage
E02370 E	educer, Speed, Pump, Hagevap, Evap		1802460	Beter, Presh Water
E02371	eed Water Treatment Howsing		AB02470	Indicator, Salinity
802372	SEAIC, SOLE		AB02471	Panel
202373	Gear, Low Speed		AB02472	Cell
802374	Shaft Low Speed		AE02480	Valve, Steam, Pressure Regulation
E02375 -	Bearing, Cone Assembly		AB02500	Valve, Solenoid Trip, Distillate
202376	Coupling, Reducer Assembly	COPY	AB02510 AB02520	Piping, Distilling Plant, Plash
802377	Coupling, Plexible	0		Type Valve, Globe and Angle
E02380	reatment, Distiller	U	AB02521 AB02522	Stem Disc
202361	Cylinder Charles Asserble		1202523	Scat
E02382	Valve, Check Assembly		AB02524	Bushing, Stem
E02383	Frame	<u></u>	AB02525	Insert
802384	Plunger, Assembly	4	AB02530	Valve, Ball
80238 5	Piston Assembly		AB02531	Ball
202386 202410	Rod, Connecting Sotor, A.C. Pump, Hagewap, Feed	AILABLE	AB02532	Seat
E02410	otor, A.C. Pump, Hagevap, Feed later Treatment, Distiller Housing, Bearing		AE02533	Seal, Seat
B02411	bell, END or Brackets, END	BEST AV	AB02534	Bearing, Upper and Lower
B02412 B02413	Winding, Coil Slot Section		AB02535	Stea
B02413 B02414	Winding, Coil BND Turns	-	AB02536	Seals, Stem
E02414	kings, Connection	S	AB02537	Spring, Seat
B02415	Leads	W	AB02538	Bearing, Thrust
B02410	Wedges, Slot	100	AB02540	Valve, Check
B02418	Boards, Terminal		AB02541	Disc
B02418	Beaters		AB02542	Seat
B0241B	Pan, Assembly	REL	AB02550	Valve, Needle
20241C	Rings, Balance	190	AB02560	Strainer
B0241D	Rings, BND	74	AB02570	Pilter
B0241E	Slinger		A 802571	Blement
	* * * * * * * * * * * * * * * * * * * *	28	AE02580	Valve, Three Way
B02421	Motor, DC, Pump, Hagevap, Feed Mater Treatment, Distiller Housing, Bearing		AB02581	Diaphrage
802422	Belis, END or Brackets, END	224	AB02582	Disc
102423	Heaters	SIL	AB02583	Seat
802424	Brush Rigging, Assembly		A 202584	Stes
			AB02585	

	4802600	Talve, Reducing	
	AB02601	Diaphraga	
	AB02602	Disc	
	AB02603	Seat	
	AB02604	Bing, Piston,	
	AB02605	Stee Stee	
	A102600	Spring	
	AB02610	Cell, Salinity	
ſ	AB02620	Gages	
1	AB02621	Pressure	
1	AB02622	Cospound	
1	AB02623	Differential	
L	AB02630	Thermometer	
lane.	AB02640	Switch, Pressure	_
	AB02650	leter, fater	
	AB02660	Botaseter	

AUXILIARY SYSTEMS, ENGINEERING DISTILLING PLANTS

► AB03000	COMPRESSOR, VAPOR, DISTILLING PLANT	AB0306E	Winding, Equalizer
AB03010	Evaporator	AB0306L	Wedges, Slot
AB03011	Boiler	AB03068	Banding
AB03012	Peed	AP0 3070	Controller, dotor, pist Plant
AB03013	Chest, Steam	AB03080	Vapor Compressor Helical Lobe Compressor, Liquid Sealing, Hing
AB03014	Shell	A203081	Type Impeller, Housing
AB03015	Tube	AB03082	Impeller, Assembly
AE03016	Sheet, Tube	AB03083	Inner Seal, Assembly
AB03017	Section, Vapor	AB03100	Hotor, AC Compressor, Vapor Liquid Sealing Dist Plant
AE03018	Separators, Vapor	AB03101	Liquid Sealing Dist Plant Housing, Bearing
AB0301A	Heater, Issersion	AB03102	Bell, END or Brackets, END
AE0 30 20	Compressor, Helical Lobe	AB03103	Winding, Coil Slot Section
		AB03104	Winding, Coil BND Turns
AB03021	Shaft	AE03105	Bings, Connection
AB03022	Seal, Shaft	AE03106	Leads
£ 803023	Rotor	AB03107	
AB03024	Gear	AE03107	Wedges, Slot
AB03025	Bearing		Boards, Terminal
AB03026	Housing	AB0310A	Heaters
AE03030	Drive, Vari-Pitch	AE0310B	Pan Assembly
1803040	Valve, BY-PASS, Vapor	AB0310C	Rings, Balance
AB03050	Hotor, A.C. Vapor Compressor Helical Lobe Distilling	AE0310D	Bings, END
AE03051	Sousing, Bearing	AB0310E	Slinger
A#03052	Bell, END or Brackets, END	AE0310P	Bearing Seat, Shaft
AB03053	Winding, Coil Slot Section	AE03110	Motor, DC Compressor, Vapor Liquid Sealing Dist Plant
AB03054	winding, Coil BND Turns	AE03111	Housing, Bearing
AR03055	Bings, Connection	AE03112	Bells, END or Brackets, END
AB03056	Leads	AE03113	Heaters
AB03057	Wedges, Slot	AE03114	Brush Rigging, Assembly
AE03058	Boards, Terminal	AB03115	Winding, Series
AB0305A	Beaters	AB03116	Winding, Shunt
AE0305B	Pan Assembly	AE03117	Winding, Commutating
AB0305C	Rings, Balance	AE03118	Leads
AB0305D	Rings, END	AE0311A	Boards, Terminal
AB0305B	Slinger	AE0311B	Trip, Overspeed
AB0305P	Bearing Seat, Shaft	AB0311C	Pan Assembly
AB03060		AE0311D	Slinger
AB03061	Hotor, DC, Vapor Compressor, Helical Lobe, Dist Plant Housing, Bearing	AB0311E	Bearing Seat, Shaft
AB03062	Bells, END or Brackets, END	AE0311F	Bings, Balance
AB03063	Heaters	AE03116	Commutatot
AB03064	Brush Bigging Assembly	AE03118	Winding, Coil Slot Section
AB03065	Winding, Series	AB0311J	Winding, Coil BND Turns
A203066	Winding, Shunt	AB0311K	winding, Equalizer
AB03067	Winding, Consutating	AB0311L	Wedges, Slot
AE03068	Leads	AB03118	Banding
AB0306A		AE03120	Controller, Motor, Compressor
AB0306B	Boards, Terminal	AB03130	Controller, Motor, Compressor Vapor Liquid Sealing Dist Plant Exchanger, Heat, Double Tube
	Trip, Overspeed	AB03131	Tube, Other
AB0306C	Fan Assembly	AB03132	Tube, Pinned
A 80306D	Slinger	AE03133	Sheet, Tube, Inner
A 20306E	Bearing Seat, Shaft	AB03134	Sheet, Tupe, Outer
A20306P	Bings, Balance	AE03135	Sheet, Tupe, Cover Plate
A 203066	Consutator	AE0.136	Cover, BY-PASS
A 20306H	Winding, Coil Slot Section	2205.00	
AB0306J	Winding, Coil BND Turns		

AE03000 VAPOR COMPRESSOR DISTILLING PLANT

A203140	Exchanger, Beat, Triple Tusu	160320J Sinding, Coil SED Turns
A203141	Tube, Outer	AR0320L Wedges, Slot
203102	Tube. Intersediate	AB0320M Banding
A203143		amo 3210 Controller, Motor, Feed Pump
A203144	Tube, Inner Pittings, Tube	AE03210 Controller, Motor, Feed Pump Vapor Compressor, Dist Plant Pump, Brine Overboard, Vapor Compressor, Distilling Plant
		AB03221 Cosing
AB03150	Condenser, Vent	AB03222 Impeller
AB03151	Shell	ABO3223 But, Impeller
ASO3152	Tube	AB03224 Key, Impeller
AB03153	Sheet, Tube	AB03225 Bings, Wearing, Casing
1803154	Waterbox	AE03226 Bings, Searing, Impeller
AE03160	Preheater	AB03227 Bushing, Throat
AB03161	Bousing	AB03228 Ring, Lantern
1803162	Element, Immersion	AE0322A Sleeve, Shaft
AB03170	Pusp, Feed, Vapor Compressor, Distilling Plant	AB0322B Shaft, Pump
AB03171	Casing	
4803172	Impeller	AB03230 Hotor, AC Pump, Brine Overboard, Vapor Compressor, Dist Plant Housing, Bearing
AB03173	Nut, Impeller	AB03232 Bell, END or Brackets, BND'
1203179	Key, Tepeller	##03233 Winding, Coil Slot Section
AB03175	Rings, Wearing, Casing	AB03234 Winding, Coil BND Turns
1203176	Rings, Wearing, Impeller	AB03235 Bings, Connection
AB03177	Bushing, Throat	AB03236 Leads
≱803178	sing, Lantern	1803237 Wedges, Slot
AE0317A	Sleeve, Shaft	AB03236 Boards, Terminal
AE03178	Shart, Pump	ABO323A Heaters
AB03180	Motor, AC, Pump, Feed, Vapor Compressor, Distilling Plant Bousing, bearing	AB0323B Fan Assembly
AB03181	Bousing, Bearing	AB0323C Bings, Balance
AE03182	Bell, END or Brackets, END	AB0323D Bings, BHD
AE03183	Winding, Coil Slot Section	AB0323B Slinger
4803184	Winding, Coil BWD Turns	AB03237 Bearing Seat, Shaft
AB03185	Bings, Connection	
AB03186	Leads	AB03240 Botor, DC Pump, Brine Overboard, Vapor Compressor, Dist Plant Housing, Bearing
AB03187	Wedges, Slot	AEC 3242 Bells, END or Brackets, END
AB03188	Boards, Terminal	AE03243 Heaters
4503184	Heaters	AB03244 Brush Rigging, Assembly
A & O 3 18 B	Fan Assembly	AB03245 Winding, Series
AB0318C	Bings, Selance	AB03246 Winding, Shunt
AE0318D	Bings, BND	AB03247 Winding, Commutating
AE0318E	Slinger	A803248 Leads
AB0318P	Bearing Seat, Shaft	AB0324A Boards, Terminal
AB03200	Motor, DC, Pump, Poed, Vapor Compressor, Distilling Plant Housing, Bearing	AE0324B Trip, Overspeed
■AB03201		ALO324C Fan, Assembly
AB03202	Bells, RWD or Brackets, RWD	AE0324D Slinger
AE03203	Heaters	1203242 Bearing Seat, Shaft
AE03204	Brush Rigging, Assembly	AB03247 Bings, Balance
AB03205	Winding, Series	AB03246 Cosmutator
AB03206	Winding, Shunt	AB0324E Winding, Coil Slot Section
AB03207	Winding, Consutating	AB0324J Winding, Coil BND Turns
AB03208	Leads	AR0324K Winding, Equalizer
AE0320A	Boards, Terminal	AB0324L Wedges, Slot
AB0320B	Trip, Overspeed	A203248 Bending
AB0320C	Fan Isseably	
AB0320D	Slinger	Pump, Vapor Comp, Bist Plant
AB0 320E	Bearing Seat, Shaft	DECT 11/11/1 101 - CCC
AB03207	Bings, Balance	RECT AVAILABLE CODV

AE03000 VAPOR COMPRESSOR DISTILLING PLANT

103260	Pusp. Distillate Vapor Compressor,	1203360	Piping, Distilling Plant, Vapo.
KQ 3261	Casing	AB03370	Valve, Clobe and Angle
103262	lmpeller	AB03371	Steam
103263	But, Impeller	AB03372	Disc
103264	Key, Impeller	AE03373	Seat
103265	kings, Wearing, Caming	AE03374	Bushing, Sten
103266	Rings, Wearing, Impeller	AE03375	Insert
RO3267	Bushing, Throat	AE03380	Valve, Ball
E03268	Ring, Lantern	AE03381	Ball
B0326A	Sleeve, Shatt	AB03382	Seat
B0326B	Shaft, Pump	AE03383	Seal, Seat
B0326C	Bearing, Ball Assembly	AB03384	Bearing, Upper and Lower
80326D	Coupling, Assembly	A203385	Stee
803270	Botor, AC, Pump, Distillate,	AE03386	Seals, Sten
E03271	Botor, AC, Pump, Distillate, Vapor Compressor, Dist Plant Housing, Bearing	AB03387	Spring, Seat
803272	Bell, END or Brackets, END	AB03388	Bearing, Thrust
E03273	winding, Coil Slot Section	AR03400	Valve, Check
B03274	Winding, Coil BND Turns	AE03401	Disc
E03275	Riugs, Connection	1203402	Seat
KO3276	Leads	AA03410	Valve, Needle
803277	Wedges, Plot	AB03420	Strainer
803278	Boards, Terminal	AE03430	Filter
B0327A	Heaters	AE03431	Element
E0327B	Fan Assembly	AE03440	Valve, Three May
E0327C	Rings, Balance	AE03441	Diaphrage
K0327D	Rings, END	AE03442	Disc
80327E	Slinger	AB03443	Seat
E0327F	Bearing Seat, Shaft	AE03444	Sten
E03280		AE03445	Spring
E03281	Motor, D. C., Pump, Dist., Vapor Comp., Dist., Plant Housing, Bearing	AE03450	Valve, Heducing
E03282		AE03451	Diephrage
E03283	Heaters	AR03452	Disc
E03284			
	Brush Rigging, Assembly	AB03453	Seat
¥03285	Vinding, Series	AE03454	Ring, Piston
E03286	Winding, Shunt	A203455	Stea
E03287	Winding, Commutating	AE03456	Spring
E03288	Leads	AE03460	Cell, Salimity
E0328A	Boards, Terminal	AB03470	Cages
E0328B	Trip, Overspeed	A203471	Pressure
E0328C	Fan Assembly	AB03472	Compound
E0328D	Slinger	A203473	Differential
E0328E	Bearing Seat, Shaft	AR03480	Thersoseter
B0328F	Rings, Balance	AE03500	Switch, Pressure
E0328G	Commutator	AM03510	Heter, Water
80328H	winding, Coil Slot Section	AE03520	Potameter
E0328J	Winding, Coil BWD Turns		
E0328K	Winding, Equalizer		
E0328L	Wedges, Slot		
E0328H	Banding		
E03300	Controller, Motor, Distillate Pump, Vapor Comp, Dist Plant Plowrator, Sealing Water		
E03310	Plowiator, Sealing Water	RECT AVAIL	VISIE CUDA

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AE03310 AE03320

AE03330

A 103350

AB03340

Plovrator, Feed

Switch, Controller, Pressure

Switch, Controller, Temperature Valve, Pressure Regulating

PUMP, FRESH WATER AH17000 AH17010 Casing AH17020 AH17030 Nut, Impeller AH17040 Key Impeller AH17050 Rings, bearing, Casing AH17060 Rings, Wearing, Impeller AH17070 Bushing, Throat AH17080 Ring, Lantern AH17100 Sleeve, Shaft AH17110 Shaft, Pusp

PUMP, HOT FRESH WATER SYSTEM CIRCULATING Casing AH31000 AH31010 Impeller AH31020 AH31030 Nut, Impeller AH31040 Key, Impeller AH31050 Rings, Wearing, Casing Rings, bearing, Impeller AH31070 Bushing, Throat AH31080 Ring, Lentern AH31100 Sleeve, Shaft AH31120 AH31130 Seal, bater AH31140 Seal, Oil

AH22010 Plate, Port AH22020 AH22030 Rotor Sleeve, Shaft AH22040 AH22050 Valve, Prining AH22051 AH22052 - Seat, Valve AH22053 Float, Ball AH22054 Bushing, Body

PUMP, PRIMING, FRESH WATER PUMP

AH22000

AUXILIARY STRYBAS, BUGINESSING GASOLINE AND PUBL OIL CARGO STRYBAS

00000LA	PURP, J P - 5 CARGO, SOTOR DRIVE Boul, First Stage	AJ35000	PURP, PAINING, MEAF BLENDING AND PRANSPER Plate, Port
AJ04020	Bowl, Other	AJ35020	Lobe
1304030	Shaft, Pump	AJ35030	Rotol Management
AJ04040	Shaft, Head	135040	Sleeve, Shaft
AJ04050	Shaft, Intermediate	AJ35050	Bearing, Ball
AJ04060	Impeller, Pirst Stage		
AJ04070	Impeller, Other		
1304080	Sleeve, Shaft		
AJ04 100	Sleeve, Taper		
AJ04110	Bearing, Sleeve		
AJ04 120	Not, Head Shaft		
AJ04130	Sleeve, Coupling		
AJ04140	Valve Assembly, Slider		
AJ04150	Coupling		
AJ04160	Seal, Hechanical		THE STREET OF CASOLINE
AJ04170	Collar, Thrust	AJ53000 AJ53010	PUMP, MAIN AVIATION GASOLINE Botor Pump
AJ04 180	Bearing Assembly, Thrust	AJ53011	Coupling
AJ04200	Spider Assembly	AJ53012	Shaft
AJ04210	Bushing	AJ53012	Sleeve, Shaft
1304220	Suction Piece	AJ53014	Impeller, First Stage
		AJ53015	Impeller, Second Stage
		AJ53016	Bing, Wearing, Casing, Pirst
		AJ53017	Stage Bing, Wearing, Casing, Second
		AJ53018	Stage Bing, Wearing, Impeller, Pirst
		AJ5301A	Stage Bing, Searing, Impeller, Second
		AJ5301B	Stage Sleeve, Spacer
AJ09000	PURIFIER, JP-5, DISC TYPE	AJ5301C	Nut, Bearing
11000000	101111111, 01 3, 2100 1111	AJ53020	Bearing, Ball
		AJ53030	Seal, Mechanical
	V.	AJ53040	Diaphraga

AJ27000	PURP, J P - 5 AVIATION SERVICE
AJ27010	Coupling
AJ27020	Shaft, Long
AJ27030	Shaft, Short
AJ27040	Rotors
AJ27050	Gears, Timing
AJ27060	Bearing, Ball, Thrust
AJ27070	Bearing, Roller
AJ27080	Seal, Sechanical

AUXILIARY SYSTEMS, RUGINERRING GASOLINE AND PUBL OIL CARGO SYSTEMS

▶ 1364000	POMP, DIESEL PUBL OIL SERVICE
AJ64010	Casing, Pump
AJ64020	Rotor, Housing or Sleeve
AJ64030	Cylinder Liner
AJ64040	Sead Plate Outboard BND
AJ64050	Read Plate, Drive BND
AJ64060	Rotor or Gear, Power
AJ64070	Rotor or Gear, Idler
1364080	Shaft, Drive
AJ64 100	Shaft, Idler or Drive
AJ64110	Bearing, Thrust
AJ64120	Bearing, Roller or Ball
AJ64130	Washer, Thrust
AJ64140	Gear, Timing
AJ64150	Bushing, Drive or Idler Shart
AJ64 160	Collar, Shaft
AJ64170	Coupling Assembly, Plexible or
AJ64180	Bucket or Vane
1364200	Spring, Ducket or Tane
AJ64210	Valve, Discharge Assembly
AJ64220	Valve, Suction Assembly
AJ64230	Valye, Relief Assembly
1364240	Bushing, Drive Shaft, Intermediate
AJ64250	Seal, Mechanical

-	AJ82000	PUMP, JP-5 SERVICE AND TRANSPER
	AJ82010	Casing, rump
	AJ82020	Rotor, Housing or Sleeve
	AJ82030	Cylinder Liner
	AJ82040	Head Plate, Outboard BED
	AJ82050	Head Plate, Drive END
	AJ82060	Botor or Gear, Power
	AJ82070	Botor or Gear, Idler
	AJ82080	Shaft, Drive
	AJ82100	Shaft, Idler or Drive
	AJ82110	Bearing, Thrust
	AJ82120	Bearing, Boller or Ball
	AJ82130	Washer, Thrust
	AJ82140	Gear, Timing
	AJ82150	Bushing, Drive or Idler Shaft
	AJ82160	Collar, Shaft
	&J82170	Coupling Assembly, Flexible or Solid
	AJ82 180	Bucket or Tabe
	AJ82200	Spring, Backet or Vane
	AJ82210	Valve, Discharge Assembly
	AJ82220	Valve, Suction Assembly
	AJ82230	Valve, Relief Assembly
	AJ82240	Bushing, Drive Shaft, Intermediate
	AJ82250	Seal, Bechanical

ADDITION I SAME OF CTRESSION

♣ AJG3000	POLIFIEL FORL OLL SELAVAL	AJE 3050	Sotor, DC Purifier Puel 011, Delaval
AJG3010	Spindle Assembly Bowl	AJ63051	Bousing, Bearing
AJG3011	Bearing, Ball	AJ63052	Bells, BBD or Brackets, BBD
AJG3012	Spindle, Bowl	AJ63053	Heaters
AJG3013	Plate, Cover	AJ63054	Brush Rigging, Assembly
AJG3014	Bing, Flexible	AJ43055	Winding, Series
AJG3015	Cover, Protecture	A363056	Winding, Shunt
AJG3016	Bearing, Top Plate	AJ63057	Winding, Commutating
AJ63017	Sleeve, Bearing	AJ63058	Leads
AJG3020	Brake Assesbly	AJ6305A	Boards, Tersinal
AJG3021	Plunger, Brake	AJ6305B	Trip, Overspeed
AJ-3022	Spring, Brain	A36305C	Yan, Assembly
AJG3023	Bushing	A36305D	Slinger
AJG3024	Cap de la constant de	AJ63052	Bearing Seat, Shaft
AJG3025	Lever	136305P	Pings, Balance
AJG3026	Pad and assessment of the second	AJ6305G	Commutator
AJG3027	Spring, Plunger	AJ6305H	Winding, Coil Slot Sectoin
AJG3030	Cover Frame, and Inlet Assembly	AJG305J	Binding, Coil BND Turns
AJG3031	Ball att astist	AJ6305K	Winding, Equalizer
AJ63032	Spring, Ball Check	AJ6305L	Wedges, Slot
AJG3033	Plug Distributing	AJ63058	Banding
AJG3034	Plunger Carrier Carrier	1363060	Controller, Notor, Puel Oil Puririer, Pelaval
AJG3035	Gear Pump Drive	A363070	Pupp, Discharge
AJ63036	Tube Regulating	7363000	Pusp, Suction
AJG3040	Motor, AC Purifier Lube Oil, Delaval	1363100	Indicator Assembly, Speed
AJ63041	Nousing, Bearing	A363101	Can as and as all as a fact of the canal of
AJG3042	Bell, END or Bracket BED	AJ63102	Cap
AJG3043	Winding, Coil Slot Section	AJ63103	Wheel, Gear
AJG3044	Winding, Coil BUD Turns	AJ63104	Shaft
AJG3045	Aings, Connection .	AJ63105	Sleeve
AJG 3046	Leads	AJ63106	Plunger
AJ63047	Todges, Slot	A363111	Adaptor, Sleeve
AJ63048	Boards, Terminal	AJ63112	Block, Spacer
AJ6304A	leaters .	AJ63113	Black, Prictica
AJ6304B	Pan Assembly	2363114	Hub, Prictica
AJG304C	Bings, Balance	AJ63115	Bing, Priction
AJG304D	PINGS BND	2383116	Worm and Wheel
AJG304E	Slinger	4363120	Screw Assembly Botton
1363047	Boaring Sout, Shaft	AJ03130	Plate, Bousing, Pump Assembly

AGRILIARY SYSTEMS, ENGINEERING CASOLINE AND PURL OIL CARGO SYSTEMS

1364000	PURIFIER, FUEL OIL, SEAPPLES	1364087	-Wedges, Slot
AJ64010	Bearing Assembly	AJG4088	Boards, Terminal
AJ64011	Bearing, Ball	AJG4081	Heaters
AJ64012	Clutch, Penale	AJC408B	Fan Assembly
AJ64013	Clutch, Hale	AJG408C	Rings, Balance
AJ64014	Coupling, Flexible	AJG408D	Rings, RND
AJ64015	Spacer	A36408E	Slinger
AJ64016	Spindle	AJC4087	Bearing Seat, Shaft
AJ64017	Coupling. Spindle	AJC4 100	Sotor DC Purifier, Puel Oil,
AJG4020	Belt		Sharples Sharples
AJ64030	Bowl, Assembly	AJG4101	Housing, Bearing
AJ64031	Bowl, Boss Sleeve	AJC4 102	Bells, END or Brackets, END
1364032	Screw Discharge	AJG4 103	Beaters
AJ64033	Ring, Dan	AJG4 104	Brush Rigging, Assembly
AJ64034	Three, Wing	AJG4105	Winding, Series
AJG4040	Cover Assembly, Bowl	AJG4 106	Winding, Shunt
AJ64050	Drag Asseably	AJ64 107	Winding, Commutating
AJ64051	Bushing, Drag	AJG4 108	Leads
AJG4052	Gasket, Drag, Housi	AJ6410A	Boards, Terminal
AJ64053	Spring, Drag	AJG4 10B	Trip, Overspeed
AJG4054	Washer, Drag	AJ6410C	Pan, Assembly
AJG4055	Nozzles, Poel	AJG4 10B	Bearing Seat, Shaft
AJ64060	Prane de la	AJG4107	Rings, Balance
AJ64070	Idler Assembly	AJG410G	Commutator
AJG4071	Bearing, Ball	AJC410H	Winding, Coil Slot Section
AJG4072	ARE Idler	AJG4 10J	Winding, Coli and lucas
AJ64073	Pulley, Idler	AJG410K	Winding, Equalizer
AJ64074	Spring, Idler	AJG4 10L	Wedges, Slot
AJC4080		AJG4 108	Banding
AJ64081	Notor AC Purifier, Fuel Oil, Sharples Housing, Bearing	AJG4110	Controller, Sotor, Fuel Oil Purifier, Sharples
AJC4082	Bell, BND or Brackets, BND	AJG4120	Purifier, Sharples Pump, Puel Oil Purifier, Sharples
AJG4083	Winding, Coil Slot Section	AJG4121	Bearing
AJ64084	Sinding, Coil BND Turns	AJG4122	Bushing
AJC4085	fings, Connection	AJG4123	Casing
AJC4085	Leads	AJG4124	Gear
2007000	man and the first	AJG4 125	Packing
		AJG4126	Gland, Packing

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Coupling, Shaft

AJG4 127

A000000 AUXILIABY STATEMS, RECUERRANGE AMOUDOD BEFRIGHEATION SYSTEMS

- ABO 1000	REPRIGERATION R-11 TO BRIDE	AB01120	Chiller, Refrigeration
ABO 1010	Compressor, Contrifugal,	AB01121	Ionds
£201011	Ispeller	A801122	Tubes
A801012	Pump Assembly, Gil	AB01123	Sheets, Tubes
ABO 1013	Bearing, Thrust	AB01124	Shells
ABO 10 14	Bearing, Main	AB01130	Controls, Refrigerant Valves as
A801015	Shaft, Impeller	AB01131	Piping Assembly Intercooler
AB01016	Seals, Shaft	AB01132	Valve, Hannal
AB0 1020	Cooler, Compressor Oil,	AM01133	Valve, Relief
A#01030	Refrigeration Drive, Pump, Refrigeration	AB01134	Switch, I P
AB01031	Coupling, Flexible	ABO 1135	Switch, Low Temperature
AB01040	Core and Plate Assembly, Lube	AB01136	Switch, Oil Failure
AB01050	Core and Plate Assembly, Lube Oil Cooler, Refrigeration Turbine, Steam, Refrigeration	ABO 1140	Purge Dait, Refrigeration
A801051	Bearing, Ball or Boller	AB01141	Crankshaft Assembly, Compresso
1801052	Bearing, Journal	A#01142	Valve, Plate
ABO 1053	Bearing, Thrust	ABO 1143	Valve, Suction
AB01054	Blading	AS01144	Hotor
AB0 1055	Casing	A#01145	Controller
AB01056	Chest, Steas	ABO 1146	
AB01057	Deflector, Oil	AB01147	Drive, Pump
AB01058	Diaphrage, Mozsle	AM01148	Separator, Oil
AB0105A	Mozzle (Block Plate or Ring)	ABO 114A	Indicator, Float and Hoisture
AB0105B	Bousing, Packing Gland	A#0114B	Valve, Relief
A80105C	Ring Assembly, Packing	A#0114C	Debydrator
A 80 105D	Reversing Chamber	AB01150	Switch, H P
AB0105B	Ring Steam		Pump, Brine, Refrigeration
AB0105P	Rotor	ABO 1151	Casing
AB0105G	Shaft	AB01152	Impeller
AMO 105H	Wheel	A#01153	Nut, Impeller
ABO 1060		ABO 1 154	Key, Impeller
AB0 1070	Regulator, Turbine Speed, Refrigeration Condenser, Stean, Refrigeration	AB01155	Rings, Wearing, Casing
AB01071	Shell	AB01156	Rings, Wearing, Impeller
	leader	AM01157	Bushing, Throat
AB01072		AM01158	Ring, Lantern
A#01073	Sheets, Tube	AB0115A	Sleeve, Shaft
AMO 1074	Tubes	ABO 1 15B	Sheft, Pump
ANO 1080	Condenser and Air Ejector, After, Befrigeration Shell	A#0115C	Gland, Stuffing Box
1801081		AMO 1 15D	Packing, Stuffing Box
AM01082	Tubes	ABO 1152	Caskets
AM01083	Headers	AB01160	Botor, D C Brine Pump, Befrigeration
A#01084	Sheets, Tube	A#01161	Housing, Bearing
AM01085	Bjector, Air	AM01162	Bells, END or Brackets, END
A#01086	Trap, Float	ABO 1 163	leaters
ASC 1067	Condenser, Auxiliary	AB01164	Brash Rigging, Assembly
ABO 1100	Labricating Oil System, Tarbine, Refrigeration Cooler	AB01165	Sinding, Series
AMO1101		2801166	Winding, Shent
AM01102	Pilter	2801167	Winding, Commutating
1201163	Pales Bolles	AB0 1 168	Leads
A 80 1 104	Valve, Belief	2001162	Boards, Terminal
AB01110	Condenser, See Water Cooled, Befrigeration Beads	A80116B	Trip, Overspeed
AB01111		ABO 116C	Pan Assembly
A801112	Tubes	And 1 16D	Slinger
4801113	Shoots, Tubes	AB01162	Bearing Seat, Shaft
AB01114	AILABLE COPY	2001167	Rings, Balance

AMO1000 REFRIGERATION R-11 TO BRINE

	AMO1000 REFRIGERA
AB01166	Constator
AB0114E	Binding, Coil Slot Section
AB01163	Binding, Coil BND Tarms
A80116E	Sinding, Equaliser
480116L	#edges, Slot
AB0 1168	Banding
ABO 1170	Controller, Brine Pump,
A801180	Controller, Brine Peap, Refrigeration Controls and Piping Assembly Chilled Brine Refrigeration Valve, Thermostatic Control
AB01181	Valve, Theraostatic Control
A801182	Switch, Thersostat
A801200	Cooler Unit, Forced Lir, Refrigeration Tubing
AB01201	Tubing
AB01202	Theel, Pan
ABO 1203	Bearings
AB0 1204	Sheft
AB01205	Housing
1801206	Drive
ABO 1210	Motor, D C Cooler Unit, Befrigeration
AB01211	Housing, Bearing
AB01212	Bells, BBD or Brackets, BBD
AB0 1213	Heaters
AB01214	Brush Rigging, Assembly
AB01215	Winding, Series
AB0 1216	Winding, Shunt
	Sinding, Commutating
AB01218	Leads
ABO 121A	Boards, Terminal
AB01218	Trip, Overspeed
AB0121C	Pan Assembly
AB0121D	Slinger
AB01212	Bearing Seat, Shaft Bings, Balance
AB01216	Commutator
ABO 1218	Winding, Coil Slot Section
A#0121J	Winding, Coil BND Turns
ABO 121K	Winding, Equalizer
A80121L	Wedges, Slot
AB01218	Banding
AB01220	Controller, Cooler Unit,
AB01230	Defrigeration Defrosting, Brine Heater,
4801240	Controller, Cooler Unit, Refrigeration Defrosting, Brine Heater, Refrigeration Pump, Brine Heater, Refrigeration
AB01241	Casing
AB0 1242	Ispeller
4801243	Nut, Impeller
AB01244	Key, Impeller
4801245	Bings, Wearing, Cesing
AB01246 /	Rings, Wearing, Impeller
AB01247	Bushing, Throat
AB01248	Ring, Lantern
AB0124A	Sleeve, Shaft

Notor, D C, Brise Seater, Serrigeration Sousings, Searing ABO 1250 ABO 1251 Bells, END or Breckets, END AB01252 ABO 1253 ABO 1254 Bresh Rigging, Assembly A#0 1255 Winding, Series A801256 Winding, Shunt ABO 1257 Winding, Commutating AB01258 Boards, Terminal AM0125A Trip, Overspeed AB0125B Pan, Assembly A80125C A 80 125D Slinger Bearing Seat, Shaft AMO 125E AB0 1252 Rings, Balance Consutator AB0 1256 AB01258 Winding, Coil Slot Section Sinding, Coil BBD Turns A#0125J A80125K Winding, Equalizer AB0 125L Wedges, Slot A801258 Banding Controller, Brine Beater, Befrideration AB01260

7803000	PRINCIPATION P-15 PIRECE MINABLES	A80203E	Winding, Coil Slot Section
ABO2010 Compressor, Refrigeration		7003037	Hinding, Coil BED Terms
ABO2011 Bearing, Crankshaft		AM0203K	Binding, Equalizer
A802012	Bearing, Connecting Rods	A#0203L	Sedges, Slot
AMO2013 Bearing, Connecting Bod Wrist Pin		AM0203M	Bending
AB02014	Bearing, Thrust	AB02040	Coatroller, Coapressor,
AB02015	Control, Capacity Assembly	AB02050	Drive Compressor, Befrigeration
AM02016	Pins, Srist	AE02051	9-1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-
AB02017	Pistos	AB02052	Coupling, Plexible
A802018	Filter, Oil	A802053	Coupling, Solid
AM0201A	Hods, Connecting	8802054	Direct
A802018	Ring, Piston .	AB02060	Base, Compressor, Refrigeration
A80201C	Creakshoft	AB02070	Bounts, Shock, Compressor,
A80201D	Screen, Section Strainer	AB02080	Retrigeration
1402018	Seal, Craskshaft	A802081	Condenser, Water Cooled, Refrigeration Heads
480201F	Sleeve, Cylinder	AM02082	Tubes
A802016	Valve, Plate	AM02083	Sheets, Tube
180201B	Valve, Suction	AB02084	Shell
A80201J	Valve, Relief	AB02100	Condenser, Air Cooled.
A80201K	Valve, Oil Pressure Relief	8802101	Refrigeration Coils
480201L	Valve, Oil Belief	AB02102	Botor, Fan
A 802018	Thrust, Coller, Craakshaft	AB02110	Beceiver, Refrigeration
AB02020	Hotor, A C, Compressor,	AB02111	Cage, Sight
A802021	Housing, Bearing	A802112	Plug, Pusible
AB02022	Bell, END or Brackets, END	AM02113 .	tage, Liquid Lovel
AB02023	Binding, Coil Slot Section	AB02120	
4802024	Winding, Coil BND Turns	A802121	Controls, Valves and Piping Assembly, From Refrigeration Interchanger, Boat
1802025	Bings, Connection	A802122	Screen, Strainer
AB02026	Lend-	A802123	Pehydrator
AB02027	Hedges, Slot	3502124	Valve, Sanual, Globe and Angle
AB02028	Boards, Terminal	AB02125	Valve, Belief
AB0202A	Heaters	AB02126	Valve, Condenser Sater Regulation
AB0202B	Pan Assembly	AB02127	Valve, Solenoid
A80202C	Bings, Balance	AB02128	
AB0202D	Rings, RND	AB0212A	Valve, Phermo Expansion Valve, Evaporator Pressure
AB02028	Slinger	AB0212B	Regulating Suitch, I P
AB02027	Bearing Seat, Shaft	AB0212C	Suitch, L P
AB02030	Hotor, D C Compressor, Refrigeration	AB02120	Switch Oil Pailure
AM02031	Refrigeration Housing, Bearing	180212E	Thermometer
AB02032	Bells, BDD or Brackets, BDD	ABC2127	Saye, Pressure
AB02033	Seators .	AB02126	Gage, Compound
AB02034	Brush Bigging, Assembly		
AB02035	Winding, Series	A00212E	Piping, Plexible Coupling
AB02036	tipline, Ment		Switch, Temperature Control
AB02037	Pinding, Connectation	A80212K	Indicator, Light Flow
AB02036	Lords	A802130	Controls, Piping Assembly, Sea Mater, Jeffigeration
AB0203A	Joans, Persional	APP 2432	
	Trip, Overspeed	A002132	Gages a personal in the company of
AB0203B	Pan, Assembly	A802133	Switch, Mater Pailere
880203C		3002134	Piping, Plexible Coupling
1002035	Slinger Bearing Seat, Shaft	AG02135	Talre, forlator, for Tator
AB0203E	tings, Belance		

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AMO2000 REFRIGERATION R-12 DIRECT EXPANSION

AB02140	Pump, See Sater, Merrigeration	AB02210	Botor, & C. Forced Air Cooler, Befrigeration
AB02141	Casing	AB02211	Bossing, Searing
AB02142	Impeller	AB02212	Sell, EMD or Brackets, EMD
AB02143		AB02213	Winding, Coil Slot Section
AB02184	But, Ispeller	A802214	Winding, Coil BND Turns
	Rey, 28PELLER	A802215	Bings, Connection
AB02145	Rings, Bearing, Casing	AB02216	Leads
AB02146	Rings, Searing, Impeller	AB02217	Wedges, Slot
AB02147	Jushing, Throat	NB02218	Boards, Terminal
AB02148	Bing, Leaters	1802214	Beaters
A80214B	Shaft, Pusp	M0221B	Pan Assembly
AM02150	Hotor, A C, See Water Pemp, Refrigeration	180221C	Bings, Balance
AB02151	Housing, Bearing	AB0221D	Rings, END
AM02152	Bell, SWD or Brackets, BWD	AB0221E	Slinger
AM02153	Winding, Coil Slot Section	AB02212	Bearing Seat, Shaft
AB02154	Winding, Coil BUD Turns	AB02220	Botor, D C, Forced Air Cooler,
AB02155	Bings, Connection	AB02221	Refrigeration Housings, Bearing
AB02156	Leads	AB02222	
AB02157	Wedges, Slot	AB02223	Bells, END or Brackets, END Beaters
AB02158	Boards, Terminal	AB02224	Brush Rigging, Assembly
A80215A	Beaters		
AB0215B	Pan Assembly	AM02225	Sinding, Series
AM0215D	Bings, BND	AB02226	Winding, Shunt
A80215E	Slinger	AB02227	Sinding, Commutating
A80215F	Bearing Seat, Shaft	AB02221	Boards, Teraisal
AB02160	Hotor, D C, Sea Water Pump, Refrigeration	A#0222B	Trip, Overspeed
AB02161	Bousing, Bearing	A80222C	Pan, Assembly
AB02162	Bells, END or Brackets, END	AM0222D	Slinger
A802163	Beaters	A80222E	Bearing Seat, Shaft
AB02164	Brush Bigging, Assembly	A802227	Rings, Balance
AB02166	Winding, Shunt	A80222G	Consutator
AB02167	Winding, Commutating	AB0222E	Finding, Coil Slot Section
AB02168	Leads	A#0222J	Hinding, Coil BED Turns
AB0216A	Boards, Terminal	AB0222K	Winding, Equalizer
AB0216B	Trip, Overspeed	A#0222L	Wedges, Slot
AB0216C	Pan Assembly	A802228	Banding
A 802 16D	Slinger	Am02230	Controller, Forced Air Cooler,
AB0216E	Bearing Seat, Shaft	1802240	Controller, Forced Air Cooler, Refrigeration Centrifugal Fas Assembly, Refrigeration Wheel, Fan
AB02162	Pings. Balance	AB02241	Shoel, Pan
AB02166	Consutator	4002242	Bearings
A80216E	Winding, Coil Slot Section	AB02243	Shaft
AB0216J	Winding, Coil SWD Turns	AB02244	Scroll
AB0216L	Wedges, Slot	A802250	Vancarial or Tuberzial Pan Assembly, Refrigeration
AB02168	Banding	· AB02251	Wheel Partinguistion
AB02170		AB02252	Housing
AB02180	Controller, Sea Water Pump, Refrigeration Drive, Sea Water Pump,	A802253	Vames, Stationery
AB02181	Drive, Sea Water Pesp, Befrigeration Belt	A802260	Propeller Pan Assembly,
AB02182	Coupling, Plexible	AB02261	Propeller Fan Assembly, Refrigeration Bledes
AB02183	Coupling, Solid	AB02262	Bearing
AB02184	Direct	1002263	Shaft
AB02200	Coolers, Forced Mir, Refrigeration	1802264	Sousing
AB02201	Coils, Cooling	AB02270	Brive, Cooler Dait, Befrigeration
4402201	sozzle, Detrosting Spray	A802271	Delt
2007507	rotter, personeral abral	A802272	Coupling, Flexible
		AB02273	Coupling, Solid
		A802274	Gear Assembly
		AB02280	
DECT	AVAILARIE CODY	-71	Cooling Coil, Gravity,

AUXILIANT STATEMS, ENGINEERING REPRIGERATION STATEMS

1803000	B-12 REPRIGREATION, TO CHILLED	AB03038	Winding, Coil Slot Section
AB03010	Compressor, Refrigeration	A80303J	Winding, Coil BND Turns
AB03011	Bearing, Crankshaft	AB0303K AB0303L	Winding, Equalizer
AMO3012 Bearing, Connecting Rods			Wedges, Slot
AB03013	Bearing, Connecting Rod Wrist Pin	980303E	Banding
A803014	Bearing, Thrust	AM03640	Controller, Compresso, Refrigeration
A803015	Control, Unloader Capacity	AB03050	Drive Compressor, Refrigeration
AB03016	Pia, Wrist	AB03051	Belt
A MO3017	Piston	AB03052	Coupling, Plexible
AE03019	Pilter. Oil	AB03053	Coupling Solid
A80301A	Rods, Connecting	AM03054	Direct
AB0301B	Rings, Piston	A203060	Base, Compressor, Refriberagion
A80301C	Crankshaft	AM03070	Mounts, Shock, Refrigeration
A80301D	Screen, Section Strainer	AM03080	Condenser, Bater Cooled,
A#0301B	Seal, Crankshaft	AB03081	Refrigeration Heads
A80301F	Sleeve, Cylinder	AB03082	Tubes
A80301G	Plate, Valve	AB03083	Sheets, Tube
A80301H	Valve, Suction	AM03084	Shell
A80301J	Valve, Relief	AB03100	Condenser, Air Cooled,
AM0301K	Valve, Oil Pressure Relief	AB03101	Refrigeration Coll
AB0301L	Valve, Oil Relief	AB03102	Botor, Fas
A803018	Thrust, Collar, Crankshaft	AB03110	Receiver, Refrigeration
AM03020	Motor, A.C. Compressor,	7 · AB03111	- Gage, Sight
18030.			Plug, Fusible
AM03022	Helising, Bearing Bell, END or Brackets, END Winding, Coil Slot Section Winding, Coil SND Turns Rings, Connection Leads Wedges, Slot Boards, Terminal Heaters Pan Assembly Rings, Balance Rings, END	AMQ3113	Gage, Liquid Level
4803023	Winding, Coil Slot Section	A #03120	Controls, Valves and Piping Assy
AB03024	Winding, Coil SND Turns	AB03121	Preon, Refrig. Interchanger, Heat
4803025	Rings, Consection	AB03122	Screen, Strainer
AM03026	Leads	AB03124	Valve, Manual, Globe and Angle
AB03027	Wedges, Slot	1803125	Valve, Belief
AB03028	Boards, Tersinal	AB03125	
	Boatoss Terriner	AM03126	Valve, Condenser Water Regulation
A80302A	Heaters	AMQ 3127	Valve, Solenoid
A#0302B	Pan Assembly	AM03128	Valve, Thermo Expansion
AB0302C	Rings, Balance	AM0312A	Switch , L.P.
\$80302D			Switch, H.P.
480302E	Slinger	AB0312C	Switch, Oil Pailure
A=0302F	Bearing Seat, Shaft	A 80312D	Thermometer
103030	Rotor, D.C. Compressor, Refrigeration	A80312E	Gage, Pressure
AB03031	Refrigeration Housing, Bearing	A80312P	Gage, Compound
ABO 3032	Bells, END or Brackets, END	AB0312G	Piping, Flexible Coupling
¥803033	üeatero	A80312H	Switch, Temperature Control
4803034	Brush Rigging, Assembly	AB0312J	Indicator, Sight Plow
1803035	Winding, Series	A80312K	Regulator, Suction Pressure
A#03036	Winding, Shunt	A#03131	Thermometer
4803037	Winding, Commutating	AB03132	Gage
AB03038	Leads	A803133	Switch, Water Pailure
A80303A	Boards, Terminal	au03134	Piping, Flexible Coupling
480303B	Trip, Overspeed	AB0 3 140	Pump, Sea Water, Refrigeration
\$80303C	Pan, Assembly	AB03141	Casing
	Slinget	AB03142	Ispeller
AMO303D			
	Bearing Seat, Shaft	ABA31A3	Wut. Ispaller
AR0303D AR0303E AR0303P	Bearing Seat, Shaft Bings, Balance	AB03143	Nut, Impeller Rey. Impeller

AM03000 R-12 REFRIGERATION TO CHILLED WATER

	Section 1	1003210	Purp, Chilled Sater, Befrigerati
103146	Rings, Wearing, Impellor	A803211	Casing
1803147	Bushing, Throat	A#03212	Impeller
103148	Ring, Lantern	AB03213	Nut, Impeller
1803141	Sleeve, Shaft	AB03214	Key, Impeller
M0314B	Shaft, Pump	AB03215	Bings, Wearing, Casing
1803150	Hotor, A.C., Sea Mater Pumps, Befrigeration	A603216	Rings, Bearing, Impeller
1803151	Housing, Bearing	AB03217	Bushing, Throat
103152	Sell, END or Brackets, END	AB03218	Bino, Lasters
103153	Winding, Coil Slot Section	AB0321A	Sleeve, Shaft
1803154	Winding, Coil BND Turns	AB0321B	Shaft, Pump
MO3155	Bings, Connection	A#03220	
M03156	Leads	AB03221	Motor, A.C., Chilled Water Pump, Befrigeration Housing, Bearing
103157	Wedges, Slot		
803158	Boards, Terminal	AM03222	Bell, BND or Brackets, BND
M0315A	Heaters	AM03223	Winding, Coil Slot Section
10315B	Fan Asseably	AB03224	Winding, Coil END Turns
80315C	Rings, Balance	AB03225	Rings, Connection
10315D	Rings, RVD	AM03226	Leads
80315B	Slinger	A#03227	Edges, Slot
#0315F	Bearing Seat, Shaft	AM03228	Boards, Terminal
MO3160	Hotor, D.C. Sea Water Pump,	AM0322A	Beaters
103161	Refrigeration Housing, Bearing	AM0322B	Fan Assembly
B03162	Bells, BND or Brackets, BND	AM0322C	sings, Balance
103163	Reaters	AB0322D	Rings, BED
		A80322E	Slinger
103164	Brush Rigging, Assembly	AM0322F	Bearing Seat, Shaft
M03165	Winding, Series	AM03230	Botor, D.C. Chilled Sater Pump, Refrigeration
H03166	Winding, Shant	AB03231	Housings, Bearing
803167	Winding, Commutating	AM03232	Bells, END or Brackets, END
803168	Leads	AB03233	Reaters
8 03161	Boards, Terminal	AM05234	Brush Rigging, Assembly
80316B	Trip, Overspeed	AB03235	Winding, Series
80316C	Fan Asseably	AM03236	Binding, Shunt
80316D	Slinger	AB03237	Winding, Commutating
E0316E	- Bearing Seat, Shaft	1003238	Leads
80316P	Bings, Balance	A80323A	Boards, Terminal
M03166	Connutator	AB0323B	
BO3 168	Winding, Coil Slot Section	A#0323C	Trip, Overspeed
E0316J	Winding, Coil BMD Turns	AB0323D	Pan, Assembly
80316K	Winding, Equalizer		Slinger
B0316L	Wedges, Slot	AM0323E	Bearing Seat, Shaft
80316B	Banding	4803237	Linyo, Deleuce
E03170	Controller, Sea Water Pump,	110323G	Commutator
MO3180	Refrigeration Drive, Sea Water Pump, Refrigeration	A #03238	Winding, Coil Slot Section
803181	Refrigeration Belt	1103233	.Winding, Coil BND Turns
103182	Coupling, Plexible	A40323K	Winding, Equalizer
103183	Coupling, Solid	A#0323L	Wedges, Slot
MO3 184	Direct	A#0323#	Banding
#U3200		AM0 3240	Controller, Chilled Water Pump, Betrigeration Drive, Chilled Water Pump,
103201	Controls, Valves and Piping Assy Chilled Fater, Refrig.	A803250	Drive, Chilled Water Pump,
803202		AM03251	Refrigeration Belt
	Gage	AN03252	Coupling, Plexible
B03203	Switch, Water Pressure	A803253	Coupling, Solid
803204	Switch, Thermostatic	AM03254	Direct
803205	Piping, Plexible Coupling	AB03260	Chiller, Refrigeration
	AND THE STREET	AM03261	Head
	VAILABLE COPY	A#03262	Shell
CT	WALLAKIT LUPT	AN03263	Tubes
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	AP01000 TU	AP01070	Gear, Lifting
		AP01071	Bearings
	AUXILIARY SYSTEMS, ENGINEERING	AP01072	Casing
AP00200	GENERATOR, SHIP SERVICE, STEAM	AP01073	Roter
AP01000	TURBINE, SSTG	AP01080	Block, Nozzle
AP01010	Bearings	AP01081	Boltings
AF61011	Bearings, Journal, AFT	AP01082	Shield, Bolting
# 01012	Bearings, Journal, PVD	AP01083	Vanes, Nozzles
AP01013	Bearings, Thrust	P01100	Valves, Nozzle Control
AP01014	Coller, Thrust Bearing	AP01101	Bushings
AP01015	Shoe, Thrust Bearing	AP01102	Discs
AP01016	Shime, Thrust Bearing	AP01102	Kings, Expansion
AP01017	Locking Device, Thrust Bearing		Rods, Lift
AP01018	Deflectors, Oil	P01104	Locknuts, Valve Stem
AP0101A	Rings, Oil Seel	AP01105	
AP0101B	RTE Elements and Leads	AP01105	Seats
AP0101C	Theraccouples	AP01110	Overspeed and Governor Hechaniss
AP01010	Flows, Sight	AP01111	Trip, Bolt
APO101E	Seate, Spherical	AP01112	Servo Mechanisms
APO101F	Bolting for Caps	AP01113	Linkages, Tripping
AP01020	Cosing	AP01120	Packing, Gland and Dummy
AP01021	Bolting and Stude	AP01121	Pins, Locking
AP01022	Blading	AP01122	Rings, Packing
AP01023	Drains	AP01123	Springs
AP01024	Connections, Flanged and	AP01130	Rotor
AP01025	Joint, Horizontal	AP01131	Weights, Balance
AP01026	Lagging	AP01132	Blading
AP01027	Grooves, Pumping	AP01133	Grooves, Blading
AP01028		AP01134	Coupling
AP0102A	Rods Stay, Struts, ETC.	AP01135	Journals
AP01028	Joint, Vertical	P01140	Supports
AP0102C		XP01141	Bolting
AP01030	Cover, Value Chest	AP01142	Chocks
AP01031	Control System	AP01143	Keys
	Gear Bevel	AP01144	Links
AP01032	Bushing	201150	Valves, Steam Admission
AP01033	Care	AP01151	Chest, Steam
AP01034	Linkage	AP01152	Seat, Valve
AP01035	Pine	AP01153	Poppet
AP01036	Servo Mechanisms	0'01154	Body
AP01037	Gear Wors	AP01155	Yoke Lift
AP01040	Diaphragus	AP01156	kod, Valve Lifting
AP01041	Pins, Crush	AP01157	Guide, Rod, Valve Lifting
AP01042	Orifices, prein	AP01158	Springs
AP01043	Keys, Horizontal Joint	AP0115A	Lever
AP01044	Rings, Packing	AP0115B	Cover, Steam Chest
AP01045	Springs, Packing Ring		
AP01046	Seals, Radial and Axial	AP01160	Governor
AP01047	Boiting, Support, Dowele, ECT	AP01161	Casing, Lower Section
AP01050	Regulations, Gland Seal	AP01162	Casing, Upper Section
AP01051	Diaphrages	AP01163	Spindle, Lower
AP01052	Springs	AP01164	Bearing, Ball, Lower
AP01053	Discs, Valve	AP01165	Spring
AP01054	Seats, Valve	AP01166	Weight, Governor
		AP01167	Bearing, ball, Upper
AP01060	Instrumentation	AP01168	Spindle, Upper
AP01061	Indicator, Differential Expension	AP0116A	Seat Spring
AP01062	Gages, Pressure	AP0116B	Lever
AP01063	Indicator, Rotor Position	AP0116C	Valve, Pilot
AP01064	Valves, Sentinel	APOLIED	Piston, Power
AP01065	Gage, Taper	APOLISE	Spring Loading Assembly
AP01066	Thereseters	1 4001170	Emergency Stopping Mechanism
AP01067	Indicator, Valve Popution	A-74	

AP23000 PUMP, SHIP SERV TURBO GEN
AP23010 Casing
AP23020 Impelier
AP23030 Mut, Impelier
AP23040 Key, Impelier
AP23050 Rings, bearing, Casing
AP23060 Rings, bearing, Impelier
AP23070 Bushing, Throat
AP23080 Ring, Lantern
AP23100 Sieeve, Sheft
AP23110 Sheft, Pump

AP28000	EURE MENTE AFRY COURTS AFE
AP28011	Coupling
AP28012	Shoft
AP28013	Sleeve, Shaft
AP28014	Impeller, 1ST Stage
'AP28015	Impelier, 187 Stage
AP28016	Ring, Wearing, Casing, 187 Stage
AP28017	Ring, Wearing, Cooing, Other
AP28018	bushing, Throat
AP2001A	Nut, Shaft Sleeve
AP20020	Bearing, Ball
AP20030	Bearing, Sleeve
	AP28010 AP28011 AP28012 AP28013 AP28014 'AP28016 AP28016 AP28017 AP28018 AP2801A AP2801A

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*EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

AX04000	PUMP AIRCRAFT FUELING AND DEFUELING/BLACKHER
AX04020	Shaft, Pump and Motor
AX04030	Impeller, Inboard
AX04040	Impeller, Outboard
AX04050	Adapter, Impeller, Front
AX04060	Adapter, Impeller, Center
AX04070	Adapter, Impeller, Rear
AX04080	Seel, Mechanical Assembly
AX04100	Eliminator, Air
AX04101	Float
AX04102	Rod Guide
AX04103	Valve, Poppet
AX04104	Seat, Poppet
AX04110	Valve Assembly, 4-WAY
AX04111	Shaft, Suction Valve
AX04112	Shaft, Restriction Poppet
AX04113	Guide, Discharge Valve
AX04114	Seat, Discharge Valve
AX04115	Seat, Suction Valve
AX04116	Seat, Restriction Poppet
AX04117	Diec
AX04118	Spring
ALLPUAA	Linkage
AX0411B	Rack, Operating
AX0411C	Pinion
AX0411D	Handle
AX0411E	Solenoid

AE10010	DEFUELING SAYNE
AX10020	Coupling
AX10030	Sheft
AX10040	Impeller
AX10050	Ring, Wearing, Casing
AX10060	Nut, Impeller
AX10070	Key, Impeller
AX10080	Eliminator, Air
AX10081	Float
AX10082	Valve Assembly, Float
AX10100	Valve, Check
AX10101	Poppet and Holder
AX10102	Pin, Retainer
AX10110	Valve, Assembly, 4-WAY
AX10111	Stem, Lower Assembly
AX10112	Popret
AX10113	Bellows
AX10114	Seat, Valve Upper
AX10115	Clamp
AX10116	Lever Assembly
AX10117	Piston
AX10118	Spring, Valve
AXIOILA	Stem, Upper Assembly
AX1011B	Spacer
AX1011C	Solenoid, Trip Assembly
AX10120	Valve, Flow Control
AX10121	Valve, Butterfly
AX10122	Shaft, Valve
AX10123	Diaphrage
AX10124	Spring
AX10125	Orifice
WX10136	Rod Assembly

-	AX05000	PUMP BEFUELING AIRCRAFT FUELING	
	AX05010	Cylinder	
	02020XA	Head, Inboard	
	AX05030	Head, Outboard	
	AX05040	Rotor	
	AX 05050	Vene	
	AX08060	Shaft, Pump and Motor	
	AX05070	Velve Annuably, Control	
	AX08080	Seal, Sicave	

AUXILIARY SYSTEMS, ENGINEERING AIRCRAFT FUELING SYSTEMS, SHIPBOAR

- AX14000	PUMP AIRCHAFT FUELING AND DEFUELING/WHEELER
AX14010	Casing
AX14020	Sheft, Pump and Motor
AX14030	Seal, Mechanical
AX14040	Impelier
AX14050	Ring, Wearing, Cosing
AX14060	Ring, Wearing, Impeller
AX14070	Nut, Impeller
AX14080	Key, Impeller
AX14100	Lever and Linkage, Valve
AX14110	Operating Assembly Diaphragm
AX14120	Valve Discharge, Pilot
AX14121	Stee
AX14122	Disc
AX14123	Holder, Disc
AX14124	Seat
AX14125	Spring
AX14130	Valve, Suction
AX14131	Piston
AX14132	Sheft
AX14133	Disc
AX14134	Holder, Disc
AX14135	Cleap, Disc
AX14136	Seat
AX14137	Spring
AX14140	Solenoid
AX14150	Valve, Float
AX14151	Float
AX14152	Linkage, Float Operating Assembly
AX14160	Value, 3-WAY

-	AX15000 AX15010	PUMP, PRINING, AIRCRAFT AND BEFUELING Cylinder	FUELING
	AX15020	Head, Cylinder	
	AX15030	Rotor	
	AX15040	Blade, Rotor	
	AX15050	Shaft	
	AX 15060	Seal, Mechanical	
	AZ15070	Bearing, Ball	
	AX15080	Coupling	

-	BH01000	STABILIZER, NON-RETRACTABLE
	BH01010	fin, fin Sheft, and Tail Flap
	BH01020	Assembly Crosshead, Tilting, Assembly
	₽H01030	Cylinders, Tilting, and Tie Rods,
	BH01040	Assembly Ram Assembly
	BH01050	Pump, Main Hydraulic Axial Piston,
	BH01051	Variable Delivery Pump, Servo, Auxiliary
	BH01052	Control, Rotary Servo
	BH01060	flywheel, Pump, and Coupling,
	BHU10, 0	Hotor, Pump, Hain
	BH01071	Housings, Bearing
	BH01072	Brackets, END
	BH01073	Windings, Coil Slot Sections
	BH01074	Windings, Coil END Turns
	BH01075	Rings, Connection
	BH01076	Leads
	BH01077	Wedges, Slot
-	BH01078	Boards, Terminal
	BH0107A	Heaters
1	BH0107B	Fan Assembly
1	BH0107C	Rings, Balance
	BH0107D	Rings, END
	BH0107E	Slinger
	BH0107F	Bearing Seat, Shaft
-	BH01080	Pump, Fill AMD Drain, Rotary Gear
	BHC1081	Coupling, Flexible

BH01100	Motor, Pump, Fill and Drain
BH01101	Housing, Bearing
BH01102	Brackets, END
BH01103	Windings, Coil Slot Section
BH01104	Windings, Coil END Turns
EH01105	Ringe, Connection
BH01106	Leads
BH01107	bedges, Slot
BH01108	Boards, Terminal
BH0110A	Heaters
BH0110B	Fan Assembly
BH0110C	Rings, Balance
BH0110D	Rings, END
BHOLLOE	Slinger
BH0110F	Peering Seat, Sheft
BH01110	FAIL-SAFE Device
BH01120	Sensing Unit, Gyro
BH01130	Box. Transmitter
BH01140	Relay Unit, Hydraulic
BH01150	Unit, Transmitter, Resetting Signal
BH01160	Drive, Speed Transmitter, Propeller Sheft Driven
BH01170	Unit, Speed Transmitter
BH01180	Console, Bridge Control
BH01200	Controller, Main Pump
BH01210	Controller, Fill and Drain Pump
BH01220	Controller, Gyro Sensing Unit
BH01230	Controller, Hydraulic Relay Unit
BH01240	Benk, Transformer
BH01250	Cooler, Dil, Assembly
BH01260	Accumulator, Assembly



AUXILIARY SYSTEMS, SHIPS CONTROL STABILIZER, FIN TYPE

-	BH02000	STABILIZER, RETRACTABLE
	BH02010	Box, Fin, Assembly
	BH02020	Fins and Tails Flap, Assembly
	BH02030	Shaft , Fin, and Gears, Assembly
	BH02040	Guides, Outboard, Assembly
	BH02050	Guides, Inboard, Assembly
	BH02060	Crosshead, Outboard, Assembly
	BH02070	Crosshead, Inboard, Assembly
	BH02080	Piston, Outer and Inner Tubes,
	BH02100	Cylinders Tilting, Assemblies
	EH02110	Ram, Tilting, Tie Rod and Locking
	BH02120	Pin Lubricator, Grease, Assembly
	BH02130	Transmitter, Fin, Assembly
	BH02140	Switch, Limit, Interlock, Inboard
	BH02150	Switch, Limit, Interlock, Outboard
	BH02160	Switch, Limit, Interlock, Fin
	BH02170	Dillerential Leverage. Illiting
	BH02180	Shaft Pump, Main Hydraulic Axial Piston, Variable Delivery
	BH02181	Valve, Relief, Assembly
	BH02182	Control, Pump, Assembly
	BH02183	Pump, Control and Replenishing
	BH02200	Motor, Mein, Electric
	BH02201	Housing, Bearing
	BH02202	Brackets, END
	BH02203	Windings, Coil Slot Section
	BH02204	Windings, Coll END Turns
	BH02205	Rings, Connection
	BH02206	Leads
	BH02207	Wedges, Slot
	BH02208	Boards, Terminal
	BH0220A	Heaters
	FH0220B	Fan Assembly
	BH0220C	Rings, Balance
	BH0220D	Ringo, END
	BH0220E	Slinger
	BH0220F	Bearing Seat, Shaft

BH02210	Controller, Motor, Main Pump
BH05550	Puop, Hydraulic, INO, Fin
BH02221	Extending and Retracting Valve, Relief
PH05555	Velve, Solenoid, FOUR-WAY
BH02230	Speed Reducer, Main Hotor to Pump,
BH02240	Pump, Fin Retracting, Emergency,
BH02250	Motor, AC, Pump, Emergency Fin
BH02251	Retracting. Housing, Bearing
BH02252	Brackets, END
BH02253	Windings, Coil Slot Section
BH02254	Windings, Coil END Turns
BH02255	Rings, Connection
BH02256	Leeds
BH02257	Wedges, Slot
BH02258	Boards, Terminal
BH0225A	Heaters
BH0225B	Fan Assembly
BH0225C	Rings, Belence
BH0225D	Rings, END
BH0225E	Slinger
BH0225F	Bearing Seat, Shaft
BH02260	Relay Unit, Hydraulic, With Clutch
BH02270	Cabinet, Control, Stabilizer Room
BH02280	Console, Bridge Control
BH02300	Sensing Unit, Gyro
BH02310	Bank, Transformer
BH02320	Cooler, Oil
БН02330	Valve, FOUR-WAY, Menual, Emergency Fin Retracting

AUXILIARY SYSTEMS, SHIPS CONTROL STABILIZER, FIN TYPE

BH03000	STABILIZER, FIN TYPE, RETRACTABLE GYROFIN Fin and Tail Flap, Assembly
ьно3020	Shaft, Fin, and Bearing Assembly
BH03030	Mechanism, Fin Tilt and Stowage
БН03040	Lock, Fin Tilt, Assembly
)нозо50 внозо60	Mechanism, Fin Position Repeat Back and Limit Stop Housing, Fin Shaft
ьнозо70	Lock, Stowing Axis
BH03080	Cylinders, Tilt
BH03100	Cylinders, Rigging
BH03110	Shaft, Stub, and Bearings
BH03120	Cross ARM
BH03130	System, Lubricating Oil
ьно3131	Tank, Pressure
БН03132	Tank, Sump
BH03134	Switch, Pressure
БН03135	Pump, Oil
вн03136	Motor, Drive, Pump
BH03137	Controller, Pump Motor
BH03140 BH03141	Pump, Gyrofin, HYD, Axial Piston, Variable Discplest Valve, Relief, Assembly
BH03142	Valve, Control Relief, Assembly
JH03143	Valve, Control BY-PASS, Assembly
BH03144	Valves, Replenishing
BH03145	Valve, Pilot
BH03150	Control, Pump Stroke
1103160	Motor, Pump, Gyrofin
BH03161	Housing, Bearing
BH03162	Brackets, END
BH03163	Windings, Coil Slot Sections
9H03164	Windings, Coil END Turns
BH03165	Rings, Connection

BH03166 Leads BH03167 Wedges, Slot BH03168 Sourds, Terminal BH0316A Heaters	
BH03168 Sourds, Terminal BH0316A Heaters	
BH0316A Heaters	
BH0316B Fan Assembly	
BH0316C Rings, Balance	
BH0316D Rings, END	
BH0316E Slinger	
BH0316F Shaft	
BH03170 Controller, Hydraulic Pump Mo	tor
BH03180 Pump, Hand, Gyrofin	
BH03200 Pump, Replenishing-Booster	
BH03210 Valves, Valve Penel	
BH03211 Valve, Rigging Lock, Solenois	4
BH03212 Valve, Tilt Lock, Solenoid	
BH03213 Valve, Rigging Cylinder Trans	efer,
BH03214 Valve, Tilt Cylinder Transfer	r,
BH03215 Solenoid Valve, Manual Rig	
BH03216 Valve, Manual Tilt	
BH03217 Valve, Brake	
BH03218 Valves, BY-PASS, Stowing and	
BH0321A Indicator, Engine Room	
BH0321B Console, Bridge Control	
BH0321D Transducer, Lift	
BH0321E Resolves, Fin Angle	
BH0321F Resolves, Rigging	
BH0321G Generator, Motor	
BH0321H Switches, Linit	

K101000	WINCH, BATHYTHERMOGRAPH
K101010	Hanger, Drus
K101020	Shaft, Drum, Assembly
K101030	Shaft, Intermediate, Assembly
K101040	Clutch, Drug, With ARM and
K101050	Clutch, Drum, With ARM and Handwheel, Assembly Counter, Diel, Assembly
K101060	Level Wind Assembly
K101070	Sheave, Streaming, Assembly
K101980	Pinion, Motor
K101100	Box, Control, Assembly
K101110	Motor, Drive, Electric
K101111	Housing, Bearing
K101112	Brackets, END
K101113	windings, Coil Siet Section
K101114	Windings, Coil END Turns
K101115	Rings, Connection
K101116	Leeds
K101117	Wedges, Slot
K101118	Boards, Terminal
K10111A	Heaters
K10111B	Fan Assembly
K10111C	Rings, Belance
K10111D	Rings, END
KIOIALE	Slinger
K10111F	Bearing Seat, Shaft
K101120	Brake, Motor, Electric, Disc
K101130	Controller, Motor

N102000 WINCH, FANFARE STREAMING
K102010 Motor
K102020 Controller
K102030 Switch

VINCH, STERN ANCHOR, WITH DOUBLE K106000 K106010 Base, Main, Assembly K106020 Shaft, Drums and Gypsy, Assembly K106030 Shaft, Intermediate, Assembly K106040 Brake, Clutch, Assembly Compressor, Clutch Brake, Assembly K106050 Control, Auto Tension Assy, With Linkage/Controller Drive, Sprocket, Spooling Device K106060 K106070 Spooling Device, Assembly, With Clutch Clutch, Low Speed, Assembly K106080 K106100 K106110 Roller Assembly K106120 Dog Assembly, Mechanical K106130 Case. Spring, Assembly K106140 Motor, Drive K106141 Housing, Bearing K106142 Brackets, END K106143 Heaters K106144 Brush Rigging Assembly K106145 Winding, Series K106146 Winding, Shunt K106147 Winding, Commutating K106148 K10614A Boards, Terminal K10614B Trip Overspeed K10614C Fan, Assembly Slinger K10614D K10614E K10614F Rings, Balance K10614G Commutator K10614H Winding, Coil Slot Section K10614J Winding, Coil END Turns K10614K Winding, Equalizer K10614L Wedges, Slot K10614H Banding Brake, Motor, Solenoid K106150 Tachometer, Assembly K106160 K106170 Control, Remote, Haster K106180 Panel, Control Switch, Dog Limit K106200 Switch, BY-PASS, Dog Limit K106210 Controller, Drive Motor K106220 £106230 Switch, Limit, Clutch, Low Speed

K100000 DECK SYSTEMS, GENERAL KULOUS EQUIPMENT.

	**A	K115000	Prus and Shoft Assembly
×112000	WINCH, FUELING AT SEA, DOUBLE GYPSY	K115020	Clutch, Sliding Jaw
K115010	Shaft, Cypey, Accordly	K115030	Speed Reducer Assembly
K112020	Speed Reducer Assembly	' K116040	Brake, Clutch and Paul Assembly
K112030	Coupling	E115050	Brake, Hydraulic, Assembly
K112040	Bedplate	K115060	Stand Control, Assembly
K112050	Motor, Drive, Mein, Electric	K115070	Bedplate Assembly
K112051	Housing, Bearing	K115080	
K112052	Brackets, END	K115081	Pump, Main H4D, Axial Piston, Variable Delivery Pump, Auxiliary, Hydraulic, Vane
K112053	Windings, Coil Slot Section	K115082	Valve, Relief
K112054	Windings, Coil END Turns		
K112055	Rings, Connection	K115083	Control Assembly
K112056	Leads	K115084	Hanifold Assembly
4112057	Vedges, Slot	K115100	Motor, Drive HYD, Axial Piston, Fixed Displacement Valve, Check
K112058	Boards, Terminel	K116101	
A112-5A	Heaters Annual States	K115110	Motor, Pump Drive, A C
K11205B	Fan Assembly	K115111	Housing, Bearing
K11205C	Rings, Balance	K116112	Brackets, END
K11205D	Rings, END	K115113	Winding, Coil Slot Sections
K11205E	Slinger	K116114	Winding, Coil END Turns
K11205F	Bearing Seat, Shaft	K116115	Rings, Connection
K112060	Brake, Motor, Electric, Assembly	K115116	Leads
		K115117	wedges, Slot
K112070	Controller, Motor	K115118	Boards, Terminal
K112080	Control, Hester	K11611A	Heaters
K112100	Pushbutton Station	K115113	Fan Assembly
		K11511C	Rings, Belance
		K11511D	Rings, END
		K11511E	Slinger
► K113000	OPERATED TOPPING, ELECTRIC POWER	K11911F	Bearing Seat, Shaft
K113010	Dase, Main, Assembly		AND THE STATE OF THE STATE OF
K113020	Sheft, Drum, Assembly	- K123000	WINCH, MAIN DECK RAMP, ELECTRIC
K113030	Shaft, Intermediate, First	K123010	
K113040	Shaft, Intermediate, Second	K123020	Sheft, Drum, Drume and Gear, Assembly Brake, Drum Sheft, and Control
K113050	Pinion, Motor	K123030	Linkage. Assembly
K113060	Gear, Helical, and Spur Pinion		Sheft, Gypsy, Motor Gear and Gypsies, Assembly
K113070	Gear, Idler, Helical	K123040	Clutch, Gypsy Sheft, and Bull Pinion, Assembly Switch, Clutch Interlock
K113080	Geer, Spur	K123050	
K113100	Bracket, Latching, and Paul,	K123060	Bedframe, Assembly
K113110	Motor, Drive, Electric	K123070	Motor, A C
K113111	Housing, Bearing	K123071	Housings, Bearing
K113112	Brackets, END	K123072	Brackets, END
K113113	Windings, Coil Slot Section	K123073	Winding, Coil Slot Sections
K113114	Windings, Coil END Turns	K123074	Winding, Coil END Turns
	Rings, Connection	K183075	Rings, Connection
RALDILO		E123076	Leads
K113116	Leads	K189077	Wedges, Slot
K113117	Vedges, Slot	K189070	Boards, Terminal
K113118	Boards, Terminal	E13807A	Heaters
K11311A	Heaters	E18907C	Fan Assembly
K113118	Assembly, Fan	E18907D	Rings, Balance
K11311C	Ringe, Belence	ELOGOTE	Rings, END
K11311D	Rings, END	E12307F	Slinger
K11311E	Slinger		
E11311F	Bearing Seat, Shaft	E12307G	Bearing, Shaft, Seat
K113120	Brake, Hotor, Disc, Electric	K183080	Brake, Hotor, Electric, Disc
K113130	Controller, Motor	K188100	Controller, Motor
	100	K186110	Pushbutton Station
	VAILABLE COPY	A-02 # #180180	Suitch, Limit, Roop Travel
TCT A	TAIL ARIE SARV	V_AR E100130	Suitch, Limit, Roop Overtrovel

KO00000 DECK SYSTEMS, GENERAL KC00000 WINCHES, BOAT

KC01000 WINCH, BOAT, ELECTRIC, DOUBLE GYPSY KC01010 Shaft, Gypsy, Assembly KC01020 Speed Reducer, Assembly KC01030 Bedplate KC01040 Motor, Drive, Main, Electric KC01041 Housing, Bearing KC01042 Brackets, END KC01043 Windings, Coil Slot Section KC01044 Windings Coil END Turn KC01045 Rings, Connection KC01046 Wedges, Slot KC01047 KC01048 Boards, Terminal KC0104A Heaters KC0104B Fan Assembly KC0104D Rings, END KC0104E Slinger KC0104F Bearing Seat, Shaft KC01050 Brake, Motor, Electric, Assembly -KC01060 Controller, Motor KC01070 Control, Mester KC01080 Pushbutton Staticn

KOOOOOO DECK SYSTEMS, GENERAL KGOOOOO WINDLASS, ANCHOR

WINDLASS, VERT SHAFT SHGL CAPSTAN - WILDCAT, ELEC Copoten & Wildcat Asserbly KG01000 KG01010 KG01020 Brake Assembly, Pechanical Lock, Wildcat Assembly KG01030 Stand, Control Hand Frake, Assembly with Linkage Speed Reducer Assembly KG01040 KG01050 KG01060 Motor, Electric, Drive KG01061 Housing, Bearing KG01062 Bell, END or Brackets, END KG01063 Windings, Coil Slot Section KC31051 Windings, Coll END Turns KG01065 Fan Assembly Rings, Connection KG01066 KG01067 Leads KG01068 wedges, Slot KG0106A Boards, Terminal KG0106B Heaters KGC106C Rings, END KG0106D Slinger KG0106E Sheft KG01070 Switch, Control, Mester KG01080 Controller, Motor KG01100 Coupling, Torque Limiting KG01110 Brake, Hotor to Reducer, Electric

KOOOOOO DECK SYSTEMS, GENERAL KGDOOOO WINDLASS, ANCHOR

₩ KG02000	WINDLASS, WERT SHET, DRLE	KG02210	Wildcot
8602010	Pump, Hydraulic, Axial Piston,	KG02211	Shaft, Wildest
KG02011	WINDLASS, VERT SHET, CBLE WIDCT/SNGL CAP - ELEC/HYD Pump, Hydraulic, Axial Piston, Variable Eelivery Servo Control Assembly	KG02212	Coupling, Shaft Wildcat
KG02012	Relief Valve Assembly	KG02213	Clutch. Assy Wildcot
AG02013	Pump Control Assembly	KG02214	Interlock, Assy Wildcat.
KG02014	Pump Reducer Assembly	KG02215	Cover, Wildcat
KG02015	Replenishing Pump	KG02216	Cover, Capstan
KG02020	Speed Reducer, Assembly	KG02300	Hydraulic System
KG02030		KG02301	Bleeder, Air
KG02031	Motor, Hydraulic, Axial Piston, Fixed Strcke Filter Oil	KG02302	
KG02040	Valves		Tank, Base Assy
KG02041	Velve, Relief, high Pressure	KG02303	Gages, Pressure
KG02042	Valve Bank, Replenishing	KG02304	Motor, Hydraulic
KG02043		KG02305	Filter, Oil
	Valve, Shuttle	KG02306 ≪ G02307	Oil Hydraulic Piping
KG02044	Vb)ve, BY PASS Wildcat Assembly	KG02308	Control Pump Assy
		KG02310	Gear Box, Pump Control Assy
KG02051	Brake Assembly, Mechanical	KG02311	
KG02070	Capstan Assembly	KG02312	Stand, Pump Control Assy
	Clutches, Wildcat		Pump, Replenishing
KG02080	Control Stand, Fump	KG02313	Drive, Replenishing Pump Assy
KG02081	Switch, Master	KG02314	Pump, Variable Delivery
KG02082	Box, Gear, Assembly	KG02315	Strainer
KG02100	Brake, Friction	KG02316	Velve Block
KG02101	Band Assy	KG02317	Valve, Bypass
KG02102	Stand, Control Assy	KG02318	Valve, Check
KG02103	Crum	K602320	Yalve, Relief
KG02104	Lining	KG02321	Valve, Replenishing
KG02105	Rod, Operating Assy	KG02322	Valve, Shuttle
KG02106	Box, Geer born Assy	KG02400	_Controller, Motor
KG02110	Brake, Motor Cperated, Reducer Input Shaft	KG02500	Motor
MG02111	Motor	K605000	Brake, NTM
KG02112	Ball Jack Assembly	KG02601	Adjustment Hech
KG02113	Shoes and Lining, Erake	K602602	Ball Jack Assy
KG02114	Linkage, Broke Levers, Assembly	K602603	Band Assy
AG02120	Motor, Electric, Pump Drive	KG02604	Lining
KG02121	Housing, Bearing	K602605	Solenoid
KG02122	Brackets, END	KG02606	Drum
KG02123	Windings, Coil Slot Section	KG02700	Switch, Limit
KG02124	bindings, Coil END Turns		
KG02125	Rings, Connection		
KG02126	Leads		
KGG2127	wedges, Slot		VAILABLE COPY
KG02128	Boards, Terminal		ALLADIE CIPY
KG0212A	Herter	DECT A	VALIABLE COL
KG02128	Fan Asserbly	REJI W	
KG0212C	Rings, Balance	0-	
KG0212D	Ringe. END		

KG0212E

KG0212F

Slinger

Bearing Seat, Shoft

KOOOOOO DECK SYSTEMS, GENERAL KGOOOOO WINDLASS, ANCHOR

ANCHOR WINDLASS HCRIZ SHAFT, ELECTRIC, DOUBLE GYPSY Shaft, Gildcat and Gypsy Assembly ► KG03000 KG03010 Speed Reducer, Assembly KG03020 KG03030 Brake, Wildcat, Assembly, Port KG03040 Brake, Wildcat, Assembly, Stbd. KG03050 Heads, Locking, Wildcat, Port KG03060 Heads, Locking, Wildcat, Stbd KG03070 Switches, Transfer, Wildcat Bedplate KG03080 Motor, Drive, Electric, D C KG03100 KG03101 Housing, Bearing KG03102 Brackets, END KG03103 Heaters KG03104 Brush Rigging Assembly KG03105 Winding, Series Winding, Shunt KG03106 KG03107 Winding, Computating KG03108 KG0310A Boards, Terminal KG0310B Trip, Cverspeed KG0310C Fan Assembly KG0310D Slinger Shaft KG0310E KG0310F Rings, Belance Commutator KG0310G KG0310H Winding, Coil Slot Section KG0310J Winding, Coil END Turns KG0310K Windings, Equalizer KG0310L Wedges, Slot KG0310M Banding KG03110 Controller, Motor KG03120 Brake, Motor, Electric, Assembly Switch, Master, With Pedestal KG03130



•	KG04000	SHAFT, VERTICAL ELEC HYD/AD
	KG04100	Brake, Friction
	KG04101	Adjustment Assy
	KG04102	Band Assy
	KG04103	Drum
	AG04104	Lining '
	KG04105	Gear, Hiter Assy
	KG04106	Stand, Assy
	KG04200	Windless, Basic .
	KG04201	Capatan
	KG04202	Shaft, Capatan Assy
	KG04203	Chain Clearer
	KG04204	Gear, Intermediate Assy
	KG04205	Gear, Main Assy
	KG04206	Gear, Main Pinion Assy
	KG04207	Geer, Pinion Assy
	KG04208	Geer, Reduction Assy Complete
	KG04210	Locking Mech. Sheft
	KG04211	Wildcat
	KG04212	Sheft Upper, wildcet
	KG04213	Cover, Wildcet
	KG04214	Cover, Capstan
	KG04300	Hydraulic Assy
	KG04301	Air Cock
1	KG04302	Filter. Sil
1	KG04303	Gage, Pressure
-	KG04304	Motor, Hydraulie
-	KG04305	Piping
	KG04306	Control, Pump Assy
	KG04307	Centering Device, Pump Control
	KG04308	Gear, Miter Pump Control

KG04310	Shafting, Pump Centrol	
KG04311	Stand, Pump Control	
KG04312	Pump, Hand	
KG04313	Pump, Hydraulic	
KG04314	Valve, Four bay	
KG04315	Valve, Relief	
KG04316	Oil, Hydraulic	
KG04400	Motor	
KG04401	Bearing	
KG04402	END Bell	
KG04403	Shaft	
KG04404	Windings, Stator	
KG04405	Rotor	
KG04500	Controller Motor	
KG04700	Motor, Erake	
KG04701	Adjustment Hech	
KG04702	Balljack Assy	
KG04703	Band Assy	
KG04704	Lining	
KG04710	Motor	
KG04800	Pump, Reduction Gear	
KG04801	Coupling, Pump	
KG04802	Coupling, Motor	
KG04803	Gear, Main Assy	
KG04804	Gear, Pump Assy	

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BIBDLASS, AMCHOR, VENT, SMGL VLDCT
AND CAP, NOW-HAGE
Shaft, Wildcat and Capstan,
Assembly
Brake, Wildcat, Assembly
F EG06000
  E606010
  EG06020
  EG0 60 30
               Coupling, Shaft
               Shatt, Main Lower, and Worm Genr,
Assembly
Case, Main Gear
  E606040
  EG06050
               Speed Reducer, Assembly
  EG06060
               Shaft, Intermediate, and Spur
Gear, Assembly
Clutch, Slip
  EG06070
  EG06080
  EG06 100
               Hotor, Electric, A C
  EG06 101
                Bousing, Bearing
  EG06102
                Brackets, END
  EG06 103
                Winding, Coil Slot Section
  KG06104
                Winding, Coil BND Turns
  EG06105
                Bings, Connection
  EG0 6 106
                Leads
  EG0 6 107
                Bedges, Slot
  EG06 108
                Boards, Terminal
                Heaters
  KG0610A
                Fan Assembly
  EG06 10B
                Rinys, Balance
  K60610C
  K GO 6 10D
                Rings, BND
  ECO 6 10E
                Slinger
  EG0610F
                Bearing Seat, Shaft
  EG06110
               Brake, Motor, Assembly
  KG06120
               Controller, Motor
  EC06130
               Switch, Baster
  EG06200
               Motor, Electric D.C.
  KG06201
                Housing, Bearing
  KG06202
                Bells, BND or Brackets, END
  KG86203
                Heaters
  EG0 6 204
                Brush kigging, Assy
                Winding Series
  EC06205
  EG0 6 206
                Winding, Shunt
  EG06207
                Winding, Commutating
                Leads
  EG06208
  EG06209
                Boards, Terminal
  EG0620A
                Trip, Overspeed
  EG0620B
                Pan, Assy
  M405200
                Slinger
  EG0620D
                Bearing Seat, Shaft
                Rings, Balance
  EG0620E
                Consutator
  EGO620F
  EGO 6 20G
                Winding, Coil Slot Section
  EG06208
                 Winding, Coil END Turns
                 Winding, Equalizer
  K00620J
  EGO 6 20K
                Wedges, Slot
  EG0620L
                Banding
  E006300
               Costroller, Botor, DC
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KHC4110	Case, Spring, Vertical	KH0424M	Banding
KH04100	Drive, Sprocket, Reclaiming Cont and Specing Device Compressor, Clutch Brake, and Control Assembly Case, Spring, Vertical	KH0424L	Wedges, Slot
r.H04080	Drive, Sprocket, Reclaiming Cont	KH0424K	Winding, Equalizer
KH04070	Indicator, Tow Line Pull	KHOAZAJ	Winding, Coil END Turns
KH04060	Dog Assembly, Mechanical	KH0424H	Winding, Coil Slot Section
KH04050	Coupling, Gypsy, and Shaft	KH0424G	Commutator
H04040	Assembly Shaft, Intermediate, Assembly	KH0424F	Rings, Balance
HC4030	Clutch brake and Planet Gear	KH0424E	Bearing Seat, Shaft
CH04020	Shaft, Maindrum, Assembly	KH0424D	Slinger
KHC4610	TOWING MACH, AUTO ELEC, WITH SNGL GYPSY - MG SET Ease, Main, Assembly	KH0424C	Fan Assembly
KHC4000	TOWING MACH AUTO ELEC, WITH SNGL	KH0424B	Trip, Cverspeed
KH03201	Switch, Friction	KH0424A	Boards, Terminal
KH03200	Brake, Motor, Solenoid, Assembly	KH04248	Leads
KH0318M	Panding	KH04247	Winding, Commutating
KH0318L	Wedges, Slot	KH04246	Winding, Shunt
KHC318K	Winding, Equalizer	KH04245	Winding, Series
KH0318J	Winding, Coil END Turns	KH04244	Brush Rigging Assembly
CH0318H	Winding, Coil Slot Section	KH04243	Heaters
(H03186	Commutator	KH04242	Brackets, END
KH0318F	Rings, Belance	KH04241	housing, Bearing
KH0318E	Rings, Balance	KH04240	Generator, Shovel Type, Variable
KH0318D	Silnger	KH04231	Switch, Friction
KH0318C	Fan Assembly	KH04230	Prake, Motor, Solenoid, Assembly
KH0318B	Trip, Overspeed	KH0422M	Panding
KH0318A	Boards, Terminal	KH0422L	Wedges, Slet
KH03188	Leads	KH0422K	Winding, Equalizer
KH03187	Winding, Commutating	KH0422J	winding, Equalizer
KH03186	Winding, Shunt	KH0422H	Winding, Coil Slot Section
KH03185	Winding, Series	KH0422G	Commutator .
KH03184	Brush Rigging Assembly	KH0422F	Rings, Balance
KH03183	Heaters	KH0422E	bearing Scat, Shaft
KH03182	Brackets, END	KH0422D	Slinger
KH03181	Housing, Bearing	KH0422C	Fan Assembly
KH03180	Motor, Drive, Main	KH0422B	Trip, Cverspeed
KH03170	Panel, Control, Variable Voltage	KH0422A	Boards, Terminal
KH03160	Switch, Dog Limit	KH04228	Leads
KH03150	Control, Remote, Winch Mester	KH04227	Winding, Commutating
KH03140	Control, Cable Reclaiming	KH04226	Winding, Shunt
KH03130	Linkage/Controller	KH04225	Winding, Series
KH03120	Spooling Device, With Clutch and Control Assembly	KHC4223	Heaters
KHC3110	Case, Spring, Lower	KH04222	Brackets, END
		KH04221	Housing, Bearing
KH03100	control hasemory	KH04220	Motor, Fain, Drive
KHC3080	Drive, Sprocket, Reclaiming Cont and Spooling Device Compressor, Clutch Brake and	KH04210	Rheostat, Generator Field
KH03070	Drive- Sprocket - Paclaining Cont		
KH03050	Indicator, Tow Line Pull	KH04200	Starter, Magnetic, M/G Set
KH03050	Assembly Dog Assembly, Mechanical	KH04170	Panel, Control, Variable Voltage
KH03040	Clutch Brake and Planet Gear,	KH04170	Switch, Dog Limit
KH03030	Sheft, Intermediate, Assembly	KH04160	Control, Bemote, Master
KH03020	Base, Mein, Assembly Shaft, Drum, and Gypsy, Assembly	KH04140 KH04150	Stand, Auto Tension Cont, With Linkage/Controller Control, Cable Reclaimer
FH03010			Stand. Auto lengion Cont. With

DECK SYSTEMS, GENERAL

MOGRING AND TOWING GEAR

TOWING MACH ALTO ELEC, WITH SNGL

Motor, Generator Drive
housing, Bearing
Prackets, END
Heaters
Erush Rigging Assembly
Linding, Series
Linding, Shunt
Winding, Commutating
Leads
Poards, Terminal
Trip, Overspeed
Fan Assembly
Slinger
Pearing Seat, Shaft
Rings, Balance
Commutator
winding, Coll Slot Section
Winding, Coll END Turns
Winding, Equalizer
Wedges, Slet
Banding

► KH05000	TOWING MACHINE, AUTOMATIC ELECTRIC, WITH DOUBLE GTPSY Stand, Auto Tension Cont With Linkage/Controller Sheft, Drum, Assembly
KH05010	Stand, Auto Tension Cont With
KH05011	Shaft, Drum, Assembly
KH05012	Shaft, Intermediate, Assembly
KH05013	Clutch Brake and Planet Gear
KH05014	Dog Assembly, Mechanical
KH05015	Indicator, Tow Line Pull
KH05016	Drive, Sprocket, Reclaiming Cont
KH05017	Drive, Sprocket, Reclaiming Cont and Spooling Device Compressor, Clutch Brake and Control Assembly
KH05018	Control Assembly Case, Spring, Lower
KH0501A	Case, Spring, Front and Rear
KH0501B	
KH0501C	Spooling Device, With Clutch and Control Assembly Stand, Automatic Tension Control, With Linkage and Control, Cable Reclaiming
KH0501D	With Linkage and
KHOSOLE	
KH0501F	Control, Remote, Winch Mester
	Switch, Dog Limit
KH0501G	Switch, Limit, Payout and BY-PASS
KH0501H	Rheostat, Tension Adjusting
KH0501J	Panel, Control, Variable Voltage
KH05020	Starter, MG Set
KH05030	Motor, Drive, Main
KH05031	Housing, Bearing
KH05032	Breckets, END
KH05033	Heaters
KH05034	Brush Rigging Assembly
KH05035	Winding, Series
KH05036	Winding, Shunt
KH05037	Winding, Computating
KH05038	Leads
KH0503A	Boards, Terminal
KH0503B	Trip, Overspeed
KH-503C	Fon Assembly
KH0503D	Slinger
KHC503E	Bearing Seat, Shaft
KH0503F	Rings, Balance
KH0503G	Commutator
KH0503H	Winding, Coil Slot Section
KH0503J	Winding, Coil END Turns
KH0503K	winding, Equalizer
KH0503L	Wedges, Sict
KH0503M	Banding
KH05040	Brake, Mofor, Solenoid, Assembly
KH05041	Switch, Friction
KHOSOSO	Generator, 'Variable Voltage
KH05051	Housing, Bearing
KH05052	Brackets, END
KH05053	Heaters
KH05054	Brush Rigging Assembly
KH05055	Winding, Series
KH05056	Winding, Shunt
KH05057	Winding, Commutating
KH05058	Loads
KHOSOSA	Boards, Terminal

KHOSOSD	Trip, Overspeed
KHOSOSC	Fan Assembly
KH0505D	Slinger
KHOSOSE	Bearing Seat, Shaft
KHOSOSF	Rings, Balance
KH0505G	Commutator
KH0505H	Winding, Coil Slot Section
KHOSOSJ	Winding, Coil END Turns
KHOSOSK	Winding, Equalizar
KHOSOSL	Wedges, Slot
KH0505H	Banding
KH05060	Exciter
KH05061	Housing, Bearing
KH05062	Breckets, END
KH05063	Heaters
KH05064	Brush Rigging Assembly
KH05065	Winding, Series
KH05066	Winding, Shunt
KH05067	Winding, Commutating
KH05068	Leads
KH0506A	Boards, Terminal
KH0506B	Trip, Gverspeed
KHOEDED	Fan Accorbly
KH0506D	Slinger
KH0506E	Bearing Seat, Shaft
KH0506F	Rings, Belence
KH0506G	Commutator
KH0506H	Winding, Coil Slot Section
KH0506J	Winding, Coil END Turns
KH0506K	Winding, Equalizer
KH0506L	Wedges, Slot
KH0506H	Bending
KH05070	Motor, Generator Drive
KH05071	Housing, Bearing
KH05072	Brackets, END
KH05073	Winding, Coil Slot Section
KH05074	Winding, Coil END Turns
KH05075	Rings, Connection
KH05076	Leeds
KH05077	Wedges, Slot
KH05078	Boards, Terminal
KHOSO7A KHOSO7B	Heaters
KH05078	Fan Assembly
KH0507D	Rings, Belance Rings, END
KH0507E	
KHO90/E	Slinger

-	KH06000	TOWING MACH, AUTO ELEC, WITH AUX	KH0634M	Banding
	KH06010	Base, Main, Asserbly	KH06350	Brake, Motor, Solenoid, Assembl
	KH06020	Shaft, Main Drum, Assembly	KH06351	Switch, Friction
	KH06030	Clutch Brake and Planet Gear	KH06360	Generator, Variable Voltage
	KH06040	Shaft, Intermediate, Assembly	KH06361	Housing, Bearing
	KH06050	Countershaft and Gypsy Assembly	KH06362	Brackets, END
	KH06060	Dog Assembly, Mechanical Towing	KH06363	Heaters
	KH06070	Dog Assembly, Mechanical Auxiliary Drugs	KH06364	Brush Rigging Assembly
	KH06080	Indicator, Tou Line Pull	KH06365	Winding, Series
	KH06100	Drive, Sprocket, Reclaiming Cont	KH06366	Winding, Shunt
	KH06110	Drive, Sprocket, Recleiming Cont and Spooling Device Compressor, Clutch Brake and	KH06367	Winding, Commutating
	KH06120	Control Assembly Compressor, Brake, Auxiliary Drum	KH06368	Leads
	KH06130	Shaft, Outboard Drum, Assembly	KH0636A	Boards, Terminal
	KH06140	Case. Spring, Vertical	KH0636B	Trip, Overspeed
	KH06150	Case, Spring, Horizontal	KH0636C	Fan Assembly
	KH06160	Spooling Device, With Clutch and	KH0636D	Slinger
	KH06170	Stank, Auto Tersion Cont, With	KH0636E	Bearing Seat, Shaft
	KH06180	Linkage/Controller Control, Cable Reclaimer	KH0636F	Rings, Balance
	KH06200	Clutch Shifter, Mechanism,	KH0636G	Commutator
	KH06210	Auxiliary Drum Control, Remote, Winch Hester,	КН0636Н	Winding, Coll Slot Section
	KH06220	Deck House Control, Remote, Winch Mester,	KH0636J	Winding, Coil END Turns
	KH06230	Topside Switch, Dog Limit, Towing Drum	KH0636K	Winding, Equalizer
	KH06240	Switch, Dog Limit, Auxiliary Drum	KH0636L	Wedges, Slot
	AH06250		KH0636M	Banding
	KH06260	Switch, Limit, Clutch, Auxiliary	KH06370	Exciter
		Switch, Control Transfer	KH06371	Housing, Bearing
	KH06270	Switch, Transfer, Generator	KH06372	Brackets, END
	KH06280	Starter, Hagnetic, M/G Set	KH06373	Heaters
	H06300	Penel, Control, Magnetic	KH06374	Brush Rigging Assembly
	KH06310	Switch, Limit, Peyout	KH06375	Winding, Series
	KH06320	Rheostet, Tension Adjuster	KH06376	Winding, Shunt
	KH06330	Switch, BY-PASS, Towing Drum Dog		
	*H06340 KH06341	Motor, Drive, Mein Housing, Pearing	KH06377	Winding, Commutating Leads
	KH06342	Brackets, END		
	KH06343	Heaters	KH0637A	Boards, Terminal
	KH06344	Brush Rigging Assembly	KH0637B	Trip, Overspeed
		Winding, Series	KH0637C	fan Assembly
	KH06345	Winding, Shunt	KH0637D	Slinger
		Winding, Commutating	KH0637E	Bearing Seat, Shaft
	KH06347	Leads	KH0637F	Rings, Balance
	KH06348	Boards, Terminal	KH0637G	Commutator
	KH0634A		KH0637H	Winding, Coll Slot Section
	KH0634B	Trip, Cverspeed	KH0637J	Winding, Coil END Turns
	KH0634C	Fan, Assembly	KH0637K	Winding, Equalizer
	KH0634D	Slinger	KH0637L	
	KH0634E	Bearing Seat, Shaft	KH0637M	Banding Mater Industion
	KH0634F	Rings, Balance	KH06380	Motor, Induction
	KH0634G	Commutator	KH06381	Housing, Bearing
	KHU634H	Winding, Coll Slot Section	KH06382	Brackets, END
	KH0634J	Winding, Coil END Turns	KH06363	Windings, Coil Slot Section
	KH0634K	Winding, Equalizer	KH06384	Windings, Coil END Turns
	KH0634L	Wedges, Slot	KH06385	Rings, Connection

Kh06386	Leads
KH06387	Wedges, Slot
KH06388	Boards, Terminal
KHOE38A	Heaters
KH0638B	Fan Assembly
KH0638C	Rings, Balance
KH0638D	Rings. END
KH0638E	Slinger
KH07000	
KH07010	TOWING HACH, AUTO ELEC, TOZING AND TARGET TOWING Base, Main, Assembly
KHC7020	Shaft, hain Drum, Assembly
KH07030	Shaft, larget Tow Drum, Assembly
KH07040	Shaft, Intermediate Assembly
KH07050	Clutch Brake and Planet Gear
KH07050	Assembly Dog Assembly, Mechanical, Towing
KH07070	Drum Dog Assembly, Mechanical, Target
KH07080	Dog Assembly, Mechanical, Target Towing Drum Indicator, Tow Line Pull
KH07100	Compressor, Clutch Brake, and
KH07110	Drive, Sprocket, Reclaiming Cont
KH07120	Drive, Sprocket, Reclaiming Cont and Spooling Device Case, Spring, Lower
KH07130	Cases, Spring, Front and Rear
KH07140	Compressor, Brake, Target Towing
KH07150	Drung
KH07160	Spooling Device, With Clutch and Control Assembly Control, Auto TERSIONS with
KH07170	Control, Auto TENSIONS with Linkage and Controller Control, Cable Reclaimer, With
KH07180	Indicator Clutch, Driving, Target Towing
KH07200	Drum Control, Remote, Master
KH07210	Switch, Dog Limit, Towing Drum
KH07220	Switch, Dog Limit, Target Towing
KH07230	Drum Rheostat, Tension Adjusting
EH07240	Switch, Overwind
KH07250	Panel, Control, Variable Voltage
KH07260	Panel, Starter, Magnetic
KH07270	Hotor, Drive, Main
KH07271	Housing, Bearing
KH07272	Brackets, END
KH07273	Heaters
KH07274	Assembly, Brush Rigging
KH07275	Winding, Series
KH07276	Vinding, Shunt
KH07277	winding, Commutating .
KH07278	Leeds
K90727A	Boards, Terminal
KH0727B	Trip, Overspeed
KH0727C	Fan Assembly
KH0727D	Slinger
KH0727E	Bearing Seat, Shaft
KH0727F	Rings, Balance
KH0727G	Commutator
KH0727H	Winding, Call Slot Section
	W Call CND Tonne

Winding, Coil END Turns

	KH0727K	winding, Equalizer	
	KH0727L	Wedges, Slot	
	KH0727M	Bending	
	KI107280	Brake, Motor, Solenoid Assembly	
	KH07281	Switch, Friction	
Í	KH07300	Generator, Variable Voltage	
ı	KH07301	Housing, Bearing	
I	KH07302	Brackets, END	
I	KH07303	Heaters	
l	KH07304	Brush Rigging Assembly	
ł	KH07305	Winding, Series	
1	KH07306	Winding, Shunt	
1	KH07307	Winding, Commutating	
	KH07308	Leads	
I	KH0730A	Boards, Terminal	
١	KH0730B	Trip, Overspeed	
I	KH0730C	Fan Assembly	
١	KH0730D	Slinger	
I	KH0730E	Bearing Seat, Shaft	
١	KH0730F KH0730G	Rings, Balance	
1	KH0730H	Winding, Coil Slot Section	
1	KH0730J	Winding, Coil END Turns	
	KH0730K	Winding, Equalizer	
100	KH0730L	Wedges, Slot	
	KH0730M	Banding	
	KH07310	Motor, Generator Drive	
	KH07311	Housing, Bearing	
ì	KH07312	Brackets, END	
The second	KH07313	Heaters	
	KH07314	Brush Rigging Assembly	
	KH07315	Winding, Series	
-	KH07316	Winding, Shunt	
-	KH07317	Winding, Commutating	
	KH07318	Leads	
	KH0731A	Boards, Terminal	
-	KH0731B	Trip, Gverspeed	
-	KH0731C	Fan Assembly	
-	KH0731D	Slinger	
-	KH0731E	Bearing Seat, Sheft	
	KH0731F	Rings, Balance	
	KH0731G	Winding, Coil Slot Section	
	KH0731J	Winding, Coil END Turns	
	KH0731K	Winding, Slot	
	KH0731L	Wedges, Slot	
	KH0731H	Banding	
	KH07320	Switch, BY-PASS, Towing Drum	N.

E000000 DECK SYSTEMS, GREERAL RE00000 DINCERS, SHARING AND WARPING

- KKO 1000	WINCH, DRONE SMAKING, DOUBLE DROM,
EE01010	Shaft, Drum, and Drum Assembly,
EE0 1020	Shaft, Drum, and Drum Assembly,
EE01030	Right Gear, Reduction, Assembly
EE01040	Brake, Drum, Assembly, Left
EE0 1050	Brake, Drum, Assembly, Right
EE01060	Tensioning Device, Left
EE0 1070	Tensioning Device, Right
EE01080	Clutch Assembly, and Control
EE01100	Pump, Oil, Reduction Gear
EE01110	Switches, Limit
EE01120	Bedplate
EE01130	Motor, Electric Drive
KW01131	Honsing. Peating
EE01132	Brackets, END
EK01133	Beaters
KK01134	Windings, Coil Slot Sections
KR01135	Windings, Coil END Turns
EE01136	Rings, Connection
KE01137	Leads
EKO 1138	Wedges, Slot
EK0113A	Boards, Terminal
EK0113B	Pan Assembly
RE0113C	Rings, Balance
KK0113D	Rings, BND
KE0113B	Slinger
KK0113P	Bearing Seat, Shaft
EE01140	Brake, Motor, Electric, Assembly
KR01150	Controller, Motor
EK01160	Control, Haster
EK01170	Pushbutton Station

WINCH, ELEC 15 H.P. DOUBLE GYPSY. ► KK02000 KK02100 Winch. Besic KK02101 Saaft, Head Assy KK02102 Gear, Spur KK02103 Shaft, Worm Assy Helical Pinion Assy KK02104 KK02105 Gypsy Head KK02108 Gear Case KK02110 Cover, Gear Case KK02111 Cover, Winch KK02112 Cover, Gypsyhead KKOZZOO notor KK02300 Controller, Motor KK02400 Station, Pushbutton KK02500 Controller, Drum KK02600 Brake NTM KK02601 Band Assy KK02602 Lining KK02603 Drum KK02604 Adjustment Mech KK02605 Solenoid

-	KK03000	CAPSTAN, VERTICAL, ELECTRIC,
	KK03010	Housing, Base, and Pedestal,
	KK03020	Shaft, Capstan, with Bearings and
	KK03030	Barrel Assembly Gearing, Speed Reducing, Assembly
	KK03040	Switch, Control, Master
	KK03050	Station, Pushbutton
	KK03060	Controller, Motor
	KK 03070	Motor, Drive, Electric
	KK03071	Housing, Bearing
	KK03072	Brackets, END
	KK03073	Windings, Coil Slot Section
	KK03074	Windings, Coil END Turns
	KK03075	Fan Assembly
	KKITOTE	nings, connection
	KK03077	Leads
	KK03078	Wedges, Slot
	KK0307A	Boards, Terminal
	KK0307B	Heaters
	KK0307C	Rings, Balance
	KK0307D	Rings, END
	KK0307E	Slinger
	KK0307F	Shoft
	KK03080	Brake, Motor, Electric, Disc
	KK03100	Coupling, Sliding

ET04000 CORTETORS

ET06 106

Spring & Pork Assy

Switch, Slack Cable

KT06000	ELEVATORS, CARGO	E706110	Botor, D C
ET06010	Platform & Carfrage Assy	X206111	Housing, Bearing
KT06011	Rollers, Upper Guide Assy	ET06112	Bells, PND or Brackets, END
KT06012	Rollers, Lover Guide Assy	E206113	Beaters
R106013	Hollers, Postwise Suide Assy	ET06114	Brush Rigging Assembly
ET06014	Block, Safety Assy	ET06115	Winding, Series
ET06015	Rod, Thinble Assy	K106116	Winding, Shunt
ET06020	Buffer Assy	E206117	Winding, Commutating
KT06030	Rope, Wire, Hoist	ET06118	Leads
KT06040	Platform Lacking Assy	E20611A	Boards, Terminal
KT06041	Bar, Locking	E20611B	Trip, Overspeed
KT06042	ARM & Linkage	R20611C	Pan Assembly
ET06043	Shaft	#70611D	Slinger
KT06044	Compling	ET0611E	Bearing Seat, Shaft
ET06045	Gears	ET06117	Rings, Balance
ET06046	Clutch	E20611G	Commutator
KT06047	Can	E206118	Winding, Coil Slot Section
KT06048	Switch, Interlock	ET0611J	Winding, Coil END Turns
KT0604A	Block	ET0611K	Bindings, Equalizer
E106050	Sheave, Overhead Assy	E20611L	Wedges, Slot
£206051	Sheave	E206118	Banding
ET06052	Bearing, Roller	E206120	Broke Assy
ET06053	Spacer	ET06121	Shoe Assy
RT06054	Shaft Assy	E206122	Lining
ET06060	Controller	ET06123	Solenoid
ET06070	Governor & Switch Assy	ET06124	Switch, Limit
KT06071	Shatt	ET06130	Gear Drive Assy
B106072	Sheave	ET06131	Coupling
ET06073	Pin	ET06132	Shaft, Worm
E106074	Lever & Linkage	E206133	Bearing, Ball
E106075	Wheel, Rachet	E206131	Shaft, Pinion
ET06076	Dog	ET06135	Gear, Worm
B106077	Shoe	ET06136	Bearing, Roller
E206078	Toke	ET06137	Pinion
ET06071	Switch, Overspeed	ET06138	Gear, Drum Shaft
ET0607B	Frame, Governor Tension Assy	E20613A	Dres
ET06080	Switch, Limit, Inching & Stowing	K20613B	Shaft, Drum
ET06 100	Switch, Slack Cable Assy		
E206101	Roller		1/200
ET06 102	Bearing, Ball		AN ADIE CHY
ET06 103	Sheft	DECT A	VII VRIE COL
E106 104	AAU	KEJI A	VAILABLE COPY
ET06105	Spring & Pork Assy	00.2	THE RAIL TOTAL

DECK SYSTEMS, GENERAL CARGO, LOAD AND PRESONNEL MANDLING EQUIPMENT

E207000	BLEVATOR, STORES
E207010	Platform Assembly
ET07011	Shoe, Guide
KT07012	Lever, Lifting Assy
ET07013	Shoe, Safety Assy
E107014	Cass
ET07020	Rail, Guide
ET07030	Busper Assy
K107040	Switch, Slack Cable Assy
E207041	Switch, Limit
1107042	Roller, Cable
ET07043	Bushing
KT07044	Lever Assy
E107050	Sheave Roisting Assy
RT07060	Switch, Limit Assy
£107070	Switch, Overtravel & Slack Cable BY Pass Assy Switch, Selector Assy
£107080	Switch, Selector Assy
ET07 100	Control, Push Button Assy
ET07110	Switch, Interlock Assy
ET07120	Controller
ET07130	Motor, Electric, A C
ET07131	Bousiny, Searing
E207132	Bells, BND or Brackets, END
E207133	Winding, Coil Slot Section
RT07134	Winding, Coil END Turns
E207135	Bings, Connection
E207136	Leads
ET07 137	Wedges, Slot
ET07138	Boards, Terminal
ET0713A	Heaters
KT0713B	Pan Assembly
ET0713C	Bings, Balance
KT0713D	Bings, END
ET07 13E	Slinger
ET0713F	Bearing Seat, Shaft
ET07140	Brake Assy
ET07 141	Shoe Assy
E107142	Lining
ET07143	Brake ARS & Lever Assy
ET07 144	Solesoid
ET07145	Release. Hand Assy

ET07150	Gear Drive Assy
ET07151	Pinion, High Speed
E207152	Gear, High Speed
E107153	Pinion Shaft, Low Speed
KT07154	Gear, Low Speed
E207155	Shaft, Low Speed
ET07156	Bearing, Boller
E107157	Bearing, Ball
ET07158	Pinion
K10715A	Drue
ET0715B	Drum & Gear
ET0715C	Shaft
ET07160	Rope, Wire, Moist

KOOOOOO DECK SYSTEMS, GENERAL KUOOOOO WINCHES, REPLENISHPENT AT SEA

WINCH, REPLENMT AT SEA, ELEC-HYD, AUTO TENSIONING Shaft, Drum, and Drum Assembly KU01000 KU01010 Gearing, Speed Reducing, Assembly EU01020 KU01030 Clutch, Drum Shaft Breke, Drum, Assembly KU01040 KU01050 Paul and Ratchet Assembly KU01060 Spooling System KU01061 Roller, Pressure Compensator, Fleet Angle KU01062 KU01063 Sheave, Swiveling, Single Motor, Drive, Hydraulic, Fixed Displacement Clutch, Automatic, Motor to Reducer Brake, Hydraulic Release, Assembly Pump, Main HYD, Axial Pistion, Variable Delivery Pump, Auxiliary, Hydraulic, Vane KU01070 KU01071 KU01072 KU01080 KU01081 Limiter, Horsepower, and Control Cylinder, Small Control, Manual, With Slave Unit KU01082 KU01083 Valve, Relief, Active System KU01084 KU01085 Valve, Check, Replenishing Valve, Brake and BY-PASS KU01086 Control, Automatic Tension, Assembly Control Assembly KU01088 KU0108A Sensor, Yoke Position KU0108B Valve, Relief, Control Coupling, Flexible KU0108C Control, Remote, Pedestal and KU01100 Motor, Pump Drive, Electric KU01110 KU01111 Housing, Bearing KU01112 Brackets, END KU01113 Windings, Coil Slot Section KU01114 Windings, Coil END Turns KU01115 Rings, Connection KU01116 Leeds Wedges, Slot KU01117 KU01118 Boards, Terminel Heaters KU0111A KU0111B Fan Assembly KU0111C Rings, Balance KU0111D Rings, END KUO111E Slinger Bearing Seat, Shaft RU0111F Controller, Motor KU01120 Pushbutton Station KU01130

K000000 DECK SYSTEMS, GENERAL KV00000 WINCHES, CARGO

EV01000	WINCH, CARGO, ELECTRIC, DOUBLE	EVOZOLO	ELECTRO-ATBRAULIC Sheft, Brus, and Drus Assembly
KV01020	Shaft, Drum and Gypsy, Assembly	EV02020	Ratchet and Paul Assembly
	Speed Reducer Assembly	KV02030	Speed Reducer Assembly
KV01030	Clutch, Drum, Assembly	KV02040	Shaft, Drive Pinion, Assembly
KV01050	Brake, Drum, Assembly	KV62050	
KV01060	Pawl and Ratchet, Assembly Badplate	EV02060	Brake, Motor to Reducer Assy, Assy bith Men. Release Clutch, and Operating Gear,
KV01070	Motor, Drive, Electric	KV02070	Brake, Drum, With Controls,
KV01071		EV02080	Assembly Bedplate Assembly
KV01072	Housing, Bearing Brackets. END	KV02100	Motor, Drive, Hydraulic, Axial Piston, Fixed Stroke
KV01073	Heaters	KV02110	Pump. Main MyD. Axial Piston.
KV01074		KV02111	Variable Displacement Coupling, Flexible
KV01075	Brush Rigging Assembly	KV02112	Power Limiter
EV01076	Vinding, Series Vinding, Shunt	XV02120	Pump, Auxiliary, Hydraulic, Wave,
K##1077	Winding, Commutating	EV02130	end Drive Valve, Replenishing
AV01078	Leads	KV02140	Valve, Reducing
KV0107A	Boards, Terminal	KV02150	Valve, Relief
EV0107B	Trip, Overspeed	KV02160	Velve, Solenoid Controlled
KV0107C	Fan Assembly	KV02170	Valve, Pilot Operated
EV0107D	Slinger	KA65180	Valve, Check
EV0107E	Bearing Seat. Shaft	KV02200	Cylinder, Brake
KV0107F	Rings. Belence	EV02210	Hotor, Pump Drive, Electric, A C
KV0107G	Consutator	KV02211	Housing, Bearing
EV0107H	Vindings, Coil Slot Section	EA65515	Breckets, END
KV0107J	Windings. Coil END Turns	EV02213	Winding, Coil Slot Section
KV0107K	Vindings, Equalizer	EV02214	Winding, Coil END Turns
KV0107L	Vedges, Slot	EV02215	Rings, Connection
KV0107H	Bending	EV02216	Leads
KV01080	Brake, Motor, Electric, Assembly	KV02217	Wedges, Slot
EV01100	Controller, Motor	EV02218	Boards, Terminal
KV01110	Control, Mester	EV0221A	Heaters
KV01120	Puchbutton Station	EA68519	Fan Accombly
		KA0851C	Rings, Belance
		KA6551D	Ringe, END
		EVA221F	Slinger

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EVOSELF Bearing Seat, Shoft

•	LE01000	WINCH, COMBINATION, TOWING AND
	LE01010	WINCH, COMBINATION, TOWING AND MINESUEEPING Base, Main, Assembly, Towing Hachine
	LE01020	MACDING .
	LE01021	Drum Shaft Assembly, Towing Machine Clutch Brake and Planet Gear Assembly
	LE01022	Auxiliary Brake Assembly
	LE01023	Geer, Bull
	LE01030	Intermediate Shaft Assembly
	LE01040	Bull Pinion Shaft, Assembly,
	LE01050	Spooling Levice. Assembly, Towing
	LE01060	Machine
	LE01070	Towing Machine Spring Case, Vertical, Assembly,
	LE01080	Towing Machine
	LE01110	Assembly, Icwing Machine
	LEC1120	Assembly Towing Machine
	LE01130	Compressor, Clutch Brake, Assembly, Towing Machine Tension Control, Automatic, Assembly Towing Machine Idler Bracket, Chain Drive, Assembly, Towing Machine Stand, Remote Control, Towing Machine
	LE01140	Machine Tension Controller, Automatic
	LE01150	Tension Controller, Automatic Assembly, Towing Machine Switch, Drum, Reclaiming Control Assembly, Towing Machine Cable Indicator, Assembly, Towing
	LE01160	Assembly, Towing Machine Cable Indicator, Assembly, Towing
	LE01170	Machine Relay, Motor Assembly, Zero Speed
	LE01180	Controller. Motor
	LE01200	Motor. Drive. Electric
	LE01201	Housing Bearing
	LE01202	Brackets, END
	LE01203	Windings, Coil Slot Section
	LE01204	Windings, Coil END Turns
	LE01205	Rings, Connection
	LE01206	Leeds
	LE01207	Vedges, Slot
	LE01208	Boards, Terminal
	LE0120A	Heaters
	TE0150B	Assembly, Fan
	LE0120C	Rings, Balance
	LE0120D	Rings, END
	LE0120E	Slinger
	LE0120F	Shaft
	LE01210	Brake, Drive Motor Assembly
	FE01511	Motor, Brake
	LE01220	Switch, Limit, Dog, Towing Machine
	LE01230	Base, Main, Assembly, Minesweep Winch
	LE01240	Drum Sheft Assembly, Minesweep Winch Clutches, Drum, Assemblies
	LE01241	Clutches, Drum, Assemblies
	LE01242	Sprocket, Drive
	LE01243	Chain, Roller, Drive
	LE01250	Brake Band, Drum, and Controls Assembly, Minesweep Winch
	LE01260	Control, Clutch, Assemblies,
	LE01270	Brake Band, Drum, and Controls Assembly, Minesweep Winch Control, Clutch, Assemblies, Minesweep Winch Spooling Device, Assembly, Minesweep Winch Roller Assembly, Bouyent Cable, Minesweep Winch Idler Bracket, Chain Drive, Assembly
	LE01280	Roller Assembly, Bouyant Cable,
		The state of the s

>	LE02000	CABLE REEL MAGNETIC AND ACOUSTIC
	LE02010	Reel, Magnetic, Assembly
	LE02020	Reel, Acoustic, Assembly
	LE02030	Reducer and Drive, Magnetic Reel
	LE02040	· Reducer, Acoustic Reel
	LE02050	Brake, Magnetic Reel, Assembly
	TE05000	Brake, Acoustic Reel, Assembly
	LE02070	Roller, Assembly
	LE02080	Support Structure
	LE02100	Controller, Motor, Magnetic Reel
	FE05110	Controller, Motor, Acoustic Reel
	LE02120	Motor, Electric Magnetic Reel
	TE05151	Housing, Bearing
	TE05155	Bells, END or Brackets, END
	LE02123	Heaters
	LE02124	Brush Rigging, Assembly
	LE92125	Winding, Series
	LE02126	Winding, Shunt
	LE02127	binding, Commutating
	FE05158	Lesds
	TE0515V	Boards, Terminel
	FEOSISB	Trip, Over Speed
	TE0515D	Slinger
	TE0515E	Sheft
	LE0212F	Rings, Delence
	TE05156	Commutator
	TE0515H	Winding, Coil Slot Section
	LE0212J	Winding, Coil END Turns
	TE051SK	Winding, Equalizer
	TE0515F	Wedges, Slot
	TE0515M	Banding
	LE02130	Motor, Electric, Acoustic Reel
	LE02131	Housings, Ecaring
	LE02132	Bells, ENP or Brackets, END
	LE02133	Heaters
	LE02134	Brush Rigging, Assembly
	LE02135	Winding, Series
	LE02136	Winding, Shunt
	LE02137	Winding, Commutating
	LE02138	Leads
	LE0213A	Boards, Terminal
	LE0213B	Trip, Cverapsed
	LE0213C	Fan Assembly
	LE0213D	Slinger
	LE0213E	Sheft
	LE0213F	Rings, Balance
	LE0213G	Commutator
	FE0512H	Winding, Coil Slot Section
	LE0213J	winding, Coil END Turns
	LE0213K	Vinding, Equalizer
	LE0213L	bedges, Slot
	LE0213#	Randina

	HETT ZENGELEZE
LE03000	POWER SUPPLY HYDRAULIC .
LE03010	POWER SUPPLY, MYDRAULIC, MINESWEEPING MACHINERY Drive, Pump, Fower TAKE-OFF, Non-Magnetic, Assessing
LE03020	Pumne. Nudraulic Fixed Dienlent
LE03030	Rotart Vane 36 G.P.M. Pumps, Hydraulic, Fixed Displest Rotart Vane, 28 G.P.M.
LE03040	Valves, Mein Relief
LE03050	Valves, Check, Supply Main
LE03060	Valves, Control, FOUR-WAY
LE03070	Valves, Flow Control, 8 G.P.M.
LE03080	Valves, Dual Relief, Motor Surge
LE03100	Valves Counterbelance 1-1/4 IN
LE03110	Valves Counterbalance 3/4 IN
FE03150	Valves, Cross Cver, Supply Mains
LE03130	Valves, Cross Over, Pilot Circuit
LE03140	Valves, SHUT-OFF, Suction
LE03150	Valves, SHUT-OFF, Supply Mains
LE03160	Valves, Plug, Pilot Circuits
LE03170	Tank, Hydraulic
LE03180	Filter, Hydraulic
LE03200	fluid, hydraulic
► LE04000	CRANE MINESUEEPING. LEVEL LUFFING STERN JERED HOD NH100
LE04020	Kingpost
LE04030	Boos of Caracter and Caracter a
LE04040	Boom Support Structures
LE04050	Drum, Winch Assembly
LE04060	Drive System, Winch Drum
LE04070 LE04080	Motor, Hydraulic, Winch Drum
LE04100	Brake, Winch Drus, Assembly Control Manifold, Winch Drum
LE04110	Drive System, Swing
LE04120	Motor, Hydraulic, Swing
LE04130	Control Manifold, Swing
LE04140	
LE04150	Cylinders, hydraulic, Luffing, Assembly Control Manifold, Luffing
LE04160	Wire, Hoist
LE05000	WINCH, MINESWEEPING, TOW DRUM SINGLE GYPSY JERED POD NM-150
LE05010	Base, Main, Assembly
LE05020	Drum, 13 IN With Ratchet and Paul
LE05030	Drum 6 IN With Retchet and Paul
LE05040	Heed, Gypsy, and Sheft
LE05050	Brake Assembly, 6 IN Drum
LE05060	Clutch Assembly, 6 IN Drum
LE05070	Brake Assembly, 13 IN Drum
LE05080	Clutch Assembly, 13 IN Drum
LE05100	GEAR-BGX, Winch
LE05110	Geer Lox, Transmission
LE05120	Motor, Drive, Hydraulic, Rotary
LE05130	Manifold, Hydraulic Control
PE06000	MAGNETIC - ACQUSTIC, REEL-DRIVE ASSEMBLY, JERED MCD NM1256328 Reel, Magnetic Assembly
LE06010	
LE06020	Reel, Acoustic Assembly
LE06030	Brake, Magnetic Reel Asserbly
	Brake, Accustic Reel Assembly
LE06040	
LE06040 LE06050	
LE06040	Transmission, & Clutch, Right Hand, Assambly Transmission & Clutch, Left Had Assamble Remote Control Unit, Right Hand

DATE HINE VIEW	U CO PAIL
LE06100	Block, Hanifold, Hydraulie
LE06110	Chain Roller, Magnetic Reel
LE06120	Chain Roller, Acoustic Reel
► LE07000	CRANE, MINE SWEEPING, NON-MAGNETIC
LE07010	Kingpost
LE07020	Inca
LE07C21	Rod, Tie, Assy
LE07022	Bearing, Sleeve, Upper
LE07030	Gear, Sector, Assy
LE07040	Switch, GIHIT
LE07050	Switch, Kestar
LE07060	Controller
LE07070	Bedplate Assy
LE07080	Motor, Electric, A C, Brive Assembly Housing, Bearing
LE07082	Bells, END or Brackets, END
LE07083	Winding, Coll Slot Section
LE07084	Winding, Cotl END Turns
LE07085	Rings, Connection
LE07086	Leads
LE07087	Wedges, Slot
LE07088	Boards, Terminal
LE0708A	Heaters
LE0708B	Fan Assembly
LE0708C	Rings, Balance
LE0708D	Rings, END
LE0708E	Slinger
LE0708F	Bearing Seet, Sheft
LE07100	Brake, Electric, Drive Assembly
LE07110	Reducer
LE07111	Housing
LE07112	Sheft, Low Speed
LE07113	Pinion, Low Speed
LE07114	Bearing, Roller
LE07115	Gear, Cone, Low Speed
LE07116	Worm, Low Speed
LE07117	Gear, High Speed
LE07110	Pinion, Come, High Speed
LE0711A	Seal, Greese
- LE08000	CRANE STERN NON-MAGNETIC MINE
LE08010	Boom
LE08011	Sheave Assy
FE08015	Support, Hinge Assy
LE08020	Rotating Assy
FE08051	Worm & Shaft
FE08055	Bushing, worm Shaft
LE08023	Bearing, Radial Thrust
LE08024	Gear, born
LE08025	Bearing, Mest Lower Bushing, Mast Upper
LE08027	Crank, Hand, Portable
LE08030	Topping Assy
LE08031	Pinion, Level
LE08032	Goar, Level
LEGGOSS	Bearing, Sheeth Screw Thrust
LE08034	Shooth Assy
LEGGGS	Crank, Hand Portable
The second secon	

-	PA01000	CENERATOR
	PA01010	Components, Stationery
	PA01011	Housing, Bearing
	PA01012	Bells, RWD or Brackets, RWD
	PA01013	Windings, Coil Slot Section
	PA01014	Windings, Coil BND Turns
	PA01015	Bings, Connection
	PA01016	Leads
	PAG 10 17	Hedges, Slot
	PA01018	Boards, Terminal
	PA0101A	Terminals
	PA0 10 1B	Deflectors, Air
	PA0101C	Brush Rigging Assembly
	PA0101D	Beaters
	PA0 10 1E	Coolers, Air
	PA0101F	Contact Baker, Lube Oil Alara
	PA01016	Indicator, Lube Oil Level
	PA0 10 1H	Thermometer, Bearing
	PA0101J	Thermometer, Air Temperature
	PA0101K	Contact Haker, hir Temp Alarm
L	PA0101L	Indicator, Sight Flow
	PA01020	Components, Rotating
	PA01021	Pan Assembly
	PA01022	Rings, Balance
	PA01023	Bindings, Coil Slot Section
	PA01024	Windings, Coil BND Turns
	PA0 1025	Windings, Salient Pole Field
	PA01026	Banding
	PA01027	Leads, Coil
	PA01028	Wedges, Slot
	PA0102A	Bings, Collector
	PA0102B	Coupling, Shaft
	PAQ 102C	Keyway, Shaft
	PA0 102D	Journal, Shaft
	PA01030	Brush Rigging
	PAU 1050	Rotor
	PA0 1060	Rotor Windings
	PA01070	Slip Rings
	PA0 1080	Bearings
	PAU2000	BICITER (ROTATING)
	PA02010	Housing, Bearing
	PA02020	Windings, Stationery
	PA02030	Windings, Botating
	PA02040	Leads
_	PA02050	Wedges, Slot
	PA02060	Boards, Terminal
1	PA02070	Terminals
	PA02080	Banding
	PA02100	Fan Assembly
	PA02110	Brush Rigging Assembly
	PA02120	Consutator
	P402130	Shaft

PB01000	GENERATOR
PB01010	Components, Stationary
PB01011	Housing, Bearing
PB01012	Bells, END or Brackets, END
PB01013	Deflectors, Air
PB01014	Seals, Air
PB0 10 15	Coolers, Air
PB01016	Beater
PB0 10 17	Brush Rigging Assembly
PB01018	Windings, Series
PB01014	Windings, Shunt
PB0 10 1B	Windings, Commutating
PB0 10 1C	Windings, Starting
PB0101D	Leads
PB0 10 1E	Boards, Terminal
PB0 10 1F	Terminals
PB0101G	Contact Maker, Lube Oil Alars
PB0 10 1H	Indicator, Lube Oil Level
PB0 10 1J	Indicator, Sight Plow
PB0101K	Thermometer, Bearing
PB0 10 1L	Thermometer, Air Temperature
PB0 10 18	Contact Baker, Air Temp Alarm
PB01020	Components, Botating
PB01021	Pan Assembly
PB01022	Coupling, Shaft
PB01023	Reyway Shaft
PB0 1024	Journal, Shaft
PBQ 1026	Bings, Balance
PB01027	Bings, Collector
PB01028	Commutator
PB0102A	Windings, Slot Section
PB0102B	Windings, BWD Turas
PB0102C	Wedges, Slot
PB0102D	Banding
PB02000	COIL, BALANCE
PB03000	BEGULATOR, VOLTAGE
PB03010	Boards, Terminal
PB03020	Transformer, Potential
PB03030	Reactor
P803040	Amplifier, Magnetic
PB03050	Hotor, Torque

*EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

- 000 1000	HOTOR (AC) , HOTOR SENERATOR .	- QE030	000 CERRATOR, AC, SOTOR CERENATOR
900 1010	Components, Stationary	QD0 36	110 Components, Stationary
920 10 11	Bousing, Rearing	00030	311 Housing, Bearing
9001012		QD0 30	112 Bells, END or Brackets, END
QB0 1013	Biadiags, Coil Slot Section	QD0 30	013 Winding, Coil Slot Section
QD0 10 14	Windings, Coil END Turns	Q1030	014 Winding, Coil END Turas
QD0 1015		20030	015 Wings, Connection
QD0 1016	Leads	QD0 30	016 Leads
QDO 10 17	Wedges, Slot	93030	117 Vedges, Slot
QD0 1018		60030	18 Boards, Terminal
QB0 10 14		99030	ota Terminal
QB0 10 11		980 30	oth brush Rigging Assembly
QB0 1010		920 30	
QD0 10 11		980 30	Oth Cooler, Air
980 10 11		93030	Olb Alara, Air Temp
QD0 1020		Q 90 30	20 Components, Rotating
QD0 102		Q80 30	
QB0 102		93030	
990 1023		QD030	
QD0 1024		Q1030	
QD0 1025		99930	
QB0 102		08030	
QD0 1021		00030	
900 102		00030	
QD0 102		98030	
		99030	
QD0 1021		980 30	
QD0 10 20		- 93040	
QD02000		- 98050	
QD0 20 10		00050	••••
QD0 20 1		98050	
QD0 20 13		99050	
QD0 20 1		99050	
QD0 20 1		98050	
QD0 20 1		09050	
QD0201		99950	
QD0 20 1			
QD0 20 1		99060	STATIC KICITERI
QD0 20 1		00000	
QD0 20 1		90060	
QD0 20 10		9000	
QD0 20 11		99060	
QD0 20 1			
QEO 20 11		00060	
QD0 2020		Q2060	
QD0 202		99070	
QD0 202		Q90 70	
QD0 202		00070	
000 202		99670	
QE0202		99070	
000202		99070	
ØB0 20 2		90070	60 Amplifier, Magnetis
CD0 303			
- 000 202	Section 1		

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QD08000	REGULATOR, PREQUENCY	-	QD1 1000	STABTES, BOTOR
QD08010	Boards, Terminal	-	QD12000	CONTROLLER, MOTOR
QD08020	Terminals	-	QD13000	STATIC CONVERTER
0008030	Leads		QD13010	Asseter
QD08040	Bectifiers		QD13020	Amplifier, Magnetic
0008050	Reactors		QD13030	Choke
QD08060	Amplifier, Magnetic		QD13040	Connector, Blectrical
QD08070	Transformers		QD13050	Pilter, RP
QD09000	REGULATOR, SPEED		QD13060	Meter, Prequency
CD09010	Rectifiers		QD13070	Botor, Fan
QD10000	PANEL CONTROL	7	QD13080	Reactor
0010010	Meter, Volt		QD13100	Switch
QD10020	Meter, Frequency		QD13110	Transformer
QD10030	Meter, Watt		QD13120	Voltmeter
OD10040	Anneter	1-	QD14000	STATIC INVESTER
OL10050	Synchroscope		QD14010	Asseter
0010060	Circuit Breaker		QD14020	Amplifier, Magnetic
QD10070	Boards, Terminal		QD14030	Choke
OD10080	Terminals		QD14040	Connector, Electrical
QD10100	Leads		QD14050	Filter, RF
QD10110	Transformers		QD14060	Meter, Prequency
QD10120	Beactors		QD14070	Hotor, Fan
QD10130	Asplifier, Hagnetic		QD14080	Reactor
0010140	Recstat, Voltage Control		QD14 100	Switch
OD10141	Manual		QD14110	Transformer
QD10142	Auto		QD14120	Voltmeter
OD10150	Switch, Transfer			
OD10151	Manual			
QD10152	Auto			
QD10160	Relay Assembly, Parallel Operation			

0000000	ELECTRICAL DISTRIBUTION SYSTEM
0000000	
9001000	
Q DQ 1 0 10	
QD0 10 11	
QD01012	Bells, END or Brackets, END
QD0 1013	
QD0 10 14	Windings, Coil END Turns
QD0 10 15	
QD0 10 16	Leads
QDO 10 17	sedges, Slot
9001018	Boards, Terminal .
QD0 10 1A	Terminals
QDO 10 1B	Brush Rigging Assembly
QD0 101C	
Q DO 10 1D	Cooler, Air
QD0 10 1E	Alarm, Air Temp
QD0 1020	Components, Rotating
QD0 1021	Fan Assembly
QD0 1022	Rings, Balance
QD0 1023	
QD0 1024	Windings, Coil END Turns
QD0 1025	Windings, Salient Pole Field
QD0 1026	Ring, END
QD0 1027	Banding
QDO 1028	Leads, Coil
QD0 102A	
QD0 102B	Rings, Collector
QD0 102C	Bearing Seat, Shaft
QDC 2000	BOTOR, (DC), HOTOR GENELATOR
QD0 20 10	Components, Stationary
QD0 20 11	Bousings, Bearing
QD02012	Bells, EDD or Brackets, END
QD0 20 13	Jesters
GD0 2014	Brand Rigging Assembly
000 20 15	Winding, Series
QD02016	· Winding, Shunt
QD0 20 17	Winding, Commutating
QD0 20 18	Winding, Control
QD0 20 1A	leads
QD0 20 1B	Boards, Terminal
QD0 20 1C	Terminals
QD0 20 1D	Trip, Overspeed
00050JE	
QD0 20 12	Alars, Air Teap

QD02020	Components, Notating	
QD0 2021	Pan Assembly	
QD02022	Bearing Seat, Shaft	
QD02023	Rings, Balance	
QE0 2024	Computator	
QD02025	winding, Coil Slot Section	
0002026	Winding, Coil END Turns	
0002027	winding, Equalizer	
CD02028	Wedges, Slot	
QD0 20 2A	Banding	
QD0202B	Trip, Overspeed	
0000000	GENERATOR, AC, HOTOR GENERATOR	
QD03010	Components, Stationary	
QD03011	Housing, Bearing	
QD0 30 12	Bells, END or Brackets, END	
QD03013	Winding, Coil Slot Section	
QD03014	Winding, Coil END Turns	
2003015	Hings, Connection	
UD03016	Leads	
QD0 30 17	Hedges, Slot	
QD0 30 18	Boards, Terminal	
QD0301A	Tersinal	
QD0301B	Brush Rigging Assembly	
QD0301C	Heaters	-
QD0 30 1D	Cooler, Air	
QD0301E	Alarm, Air Temp	
QD03020	Components, Rotating	77.
QD0 3021	Tan Assembly	100
QD03022	Bings, Balance	
QD03023	Windings, Coil Slot Section	
QD03024	Winding, Coil END Turns	
QD03025	Windings, Salient Pole Field	
QD0 3026	Banding	
QE0 30 27	Leads, Coil	
QD03028	Wedges, Slot	
QD0302A	Rings, Collector	
QD0302B	Bearing Seat, Shaft	
0303030	Coupling, Nochanical	
		-

^{*}EIC Structure for indices extracted from ARING Research Publication 933-02-3-1153.

BLECTRICAL DISTRIBUTION SYSTEM * 60 CYCLE POWER CONVERSION SYSTEM

Q101000	MOTOR (AC), MOTOR GREERATOR
QL01010	Components, Stationary
QL01011	Housing, Bearing
QL01012	Bells, END or Brackets, END
QL01013	Winding, Coil Slot Section
QL01014	Winding, Coil END Turns
QL01015	kings, Connection
QL01016	Leads
QL01017	Wedges, Slot
QL01018	Boards, Terminal
QL0101A	Terminals
QL0101B	Brush Rigging Assembly
QL0101C	Heaters
QL0101D	Cooler, Air
QL0101E	Alarm, Air Temp
0101020	Components, Rotating
QL01021	Pan Assembly
QL01022	Rings, Balance
QL01023	Winding, Coil Slot Section
QL01023	Binding, Coil and Turns
QL01024	Winding, Salient Pole Field
QL01025	
	Ring, BND
QL01027	Banding Leads, Coil
QL01028	
QL0102A	Wedges, Slot
QL0102B	Rings, Collector
QL0102C	Bearing Seat, Shaft
ØF05000	MOTOR, (DC), MOTOR GENERATOR
QL02010	Components, Stationary
QL02011	Housing, Bearing
QL02012	Bells, END or Brackets, END
QL02013	Beaters
QL02014	Brush Rigging Assembly
QL02015	Winding, Series
QL02016	Winding, Shunt
QL02017	Winding, Commutating
QL02018	Winding, Control
QL0201A	Leads
QL0201B	Boards, Terminal
010201C	Terminals
0r0501D	Trip, Overspeed
QL0201B	Cooler, Air
QL0201P	Alarm, Air Temp
QL02020	Components, Rotating
QL02021	Pan Assembly
QL02022	Bearing Seat, Shaft
QL02024	Rings, Balance
QL02025	Commutator
OT05059	Winding, Coil Slot Section
QL02027	Winding, Coil BWD Turns
QL02028	Winding, Equalizer
OT05057	Wedges, Slot
QL0202B	Banding
QL0202C	Trip, Overspeed .

OTO3000	GENERATOR, AC, MOTOR GRUEBATOR
QL03010	Components, Stationary
QL03011	Housing, Bearing
QL03012	Bells, END or Brackets, END
QL03013	Winding, Coil Slot Section
QL03014	Binding, Coil BND Turns
QL03015	Rings, Connection
QL03016	Leads
QL03017	Wedges, Slot
QL03018	Boards, Terminal
QL0301A	Terminal
QL0301B	Deflectors, Air
QL0301C	Brush Rigging Assembly
QL0301D	Beaters
QL0301E	Cooler, Air
QL0301P	Alarm, Air Temp
QL03020	Components, Rotating
QL03021	Pan Assembly
QL03022	Bings, Balance
QL03023	Winding, Coil Slot Section
QL03024	Winding, Coil BND Turns
QL03025	Winding, Salient Pole Field
QL03026	Banding
QL03027	Leads, Coil
QL03028	Wedges, Slot
QL03021	Bings, Collector
QL0302B	Bearing Seat, Shaft
QL04000	BICITER (ROTATING)
QL05000	CLUTCH, MAGNETIC
QL05010	Bearings
QL05020	Leads, Oil
QL05030	Hagnetic Hedium
QL05040	Coil
QL05050	Leads
Q1.05060	Bings, Slip
QL05070	Brush Rigging Assembly
GT06000	BEGULATOR, VOLTAGE (INCLUDES
QL06010	STATIC BICITER) Boards, Terminal
QL06020	Terminal
QL06030	Leads
QL06040	Transformers
Q106050	Beactors

*EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

QUOCOCO D C POURE CONVERSION SYSTEM

	1980
- QH01000	MOTOR (AC), MOTOR GREENATOR
Q#01010	Components, Stationary
Q801011	Housing, Bearing
Q801012	Bells, RND or Brackets, RND
Q#01013	Windings, Coil Slot Section
9801014	Sindings, Coil BND Turns
Q801015	Rings, Connection
Q#01016	Leads
QB0 10 17	Bedges, Slot
Q801018	Boards, Terminal
QB01011	Terminals
0801018	Brush Rigging Assembly
Q80101C	Heaters
QM0101D	Cooler, Air
Q80101E	Alars, Air Teap
Q801020	Components, Rotating
Q#01021	Pan Assembly
Q#01022	Bings, Balance
0#01023	Winding, Coil Slot Section
0101024	Winding, Coil BND Turns
Q#01025	Winding, Salient Pole Field
0001026	Ring, RND
QB0 1027	Banding
0#01028	Leads, Coil
Q#0102A	Wedges, Slot
Q#0102B	Rings, Collector
QN0102C	Bearing Seat, Shaft
0802000	HOTOR, (DC), HOTOR GREENTOR
Q#02010	Components, Stationary
QH02011	Housing, Bearing
0002012	Bells, END or Brackets, END
QH02013	Heaters
0802015	Brush Rigging Assembly Binding, Series
0802016	Binding, Shunt
0802017	Finding, Commutating
0802018	Winding, Control
Q80201A	Leads
Q80201R	Boards, Terminal
Q#0201C	Terminals
Q#0201D	Trip, Overspeed
0802018	Cooler, Air
Q80201F	Alara,Air Temp
0802020	Components, Rotating
0002021	Fan Assembly
0002022	Bearing Seat, Shaft
0002023	Bings, Balance
0802024	Consutator
0002025	-Binding, Coil Slot Section
0802026	Winding, Coil BBD Turns
	Sinding, Equaliser
0802027	
Q802027 Q802028	
Q802027 Q802028 Q802024	Wedges, Slot Basding

Q803000	GREERATOR (DC) , .BOTOR GREERAS
Q#03010	Components, Stationery
QM03011	Bousings, Bearing
QB0 30 12	Bells, BND or Brackets, BNS
Q803013	Beaters
QB03014	Brush Rigging Assembly
QM03015	Winding, Series
Q803016	Winding, Sheat
Q#03017	Winding, Connetating
Q#03018	Winding, Control
Q80301A	Leads
Q80301B	Boards, Terminal
QH0301C	Tersinals
Q#0301D	Trip, Overspeed
QM0301E	Cooler, Air
280301P	Alara, Air Temp
QN03020	Components, Rotating
Q803021	Pan Assembly
Q803022	Bearing Seat, Shaft
QM03023	Rings, Balance
Q803024	Computator
QN03025	Winding, Coil Slot Section
Q#03026	Winding, Coil END Turns
Q803027	Winding, Equalizer
Q803028	Wedges, Slot
Q#0302A	Banding
Q80302B	Trip, Overspeed
Q#04000	BEGULATOR, VOLTAGE
QM04010	Boards, Terminal
Q804020	Terminals
QM04030	Leads
Q804040	Transformers
Q804050	Beactors
Q804060	Amplifier, Magnetic
Q#05000	PANEL, CONTROL
Q#05010	Meter, Volt
QM05020	Asseter
Q M 05030	Circuit Breaker
QM05040	Board Terminal
Q#05050	Terminals
Q#05060	Leads
Q#05070	Transformers

^{*}EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

		great class carries		Maria county Micel Courters
-	ZA01000	REFRACTORY	ZA03240	Header, Economizer.
	ZA01010	Superheeter Side	ZA03250	Plates, Hendhole, Economizer Header
	ZA01020	Water Drup Protection	ZA03260	Seats, Handhole, Econosiser Header
	ZA01030	Header Castable	ZA03270	Geskets, Handhole, Economizer Header
	ZA01040	Castable Front Well	ZA03280	Plugs, Handhole, Economizer Header
	ZA01050	Floor	ZA03300	Sheet, Tube, Economizer Header
	ZA01060	Front Well Brick	ZA03310	Header, Superheater
	ZA01070	Ges Beffle Above Superheater	ZA03320	Plates, Handhole, Superheater Header
	ZA01080	Gas Baffle Below Superheater	ZA03330	Seats, Handhole, Superheater
	ZA01100	Rear Well	ZA03340	Gaskets, Handhole, Superheater
	ZA01110	Roof	ZA03350	Plugs, Handhole, Superheater Header
	ZA01120	Side Wall	ZA03360	Sheet, Tube, Superheater Header
	ZA01130	Steam Drum Protection Baffle	ZA03370	Header, Lower Rear Well
	ZA01140	Front Wall Above Superheater	ZA03380	Plates, Handhole, Lower Rear Wall
	ZA01150	Front Wall Below Superheater	ZA03400	Header Seats, Handhole, Lower Rear Wall
	ZA01160	Rear Wall Lower Portion	ZA03410	Header Gaskets, Handhole, Lower Rear
	ZA01170	Rear Wall Upper Portion	ZA03420	Wall Header Sheet, Tube, Lower Rear Wall
	ZA01180	Superheater Protection	ZA03430	Header Header, Side Well
	ZA01200	Division Well Stud Tube Beffle	ZA03440	Plates, Handhole, Side Well Header
	ZA01210	Side Wall Stud Tube Protection	ZA03450	Seats, Handhole, Side Wall Header
	ZA01220	Anchor Bolts	ZA03460	Gaskets, Handhole, Side Wall
	ZA01230	Brick Support Ledge	ZA03470	Header
	ZA01240	Access Doors		Sheet, Tube, Side Wall Header
_	ZA02000	FIRE SIDES	ZA03480	Header, Water Screen
			ZA03500	Plates, Handhole, Water Screen Header
	ZA02010	Superheater Side	ZA03510	Seats, Handnole, Water Screen Header
	ZA02020	Saturated Side	ZA03520	Gaskets, Hendhole, Weter Screen Header
	ZA02030	Tubes, Superheater	ZA03530	Sheet, Tube, bater Screen Header
	ZA02040	Supports, Superheater	ZA03540	Tubes, Boiler
	ZA02050	Plates, Baffle	ZA03550	Economizer
	ZA02060	Braces	ZA03560	Superheater
	ZA02070	Supports	ZA03570	Generator .
-	ZA03000	-WATER SIDES	ZA03580	Finned Generator
	ZA03010	Drus, Stees	ZA03600	Superheater Support
	ZA03020	Seats, Manhole, Steam Drum	ZA03610	Stud Wall
	ZA03030	Plates, Manhole, Steam Drum	ZA03620	Side Wall
	ZA03040	Gaskets, Manhole, Steam Drum	ZA03630	Curtain Wall
	ZA03050	Desuperheater, Steam Drum	ZA03640	Rear Wall
	ZA03060	Tubes, Desuperheater, Steam Drum	ZA03650	Stud Type Division Well
	ZA03070	Pipe, DRY, Steem Drum	ZA03660	Drum Support
	ZA03080	Pipe, Feed, Stees Drus	ZA03670	Down Comers
	ZA03100	Plate, Nozzle Plate, Stees Drus	ZA04000	CASING
	ZA03110	Baffle, Manifold, Steam Drum	ZA04010	Inner Front
	ZA03120	Plate, Removable, Steam Drum	ZA04020	Inner Burger Plate
	ZA03130	Scrubber Elements, Steem Drum	ZA04030	Inner Reer
	ZA03140	Pipe, Surface Blow, Steen Drum	ZA04040	Inner Econopizer
	ZA03150	Line, Chemical Feed, Steam Drum	ZA04050	Inner Side
	ZA03160	Tube Sheet, Steam Drum	ZA04060	Inner Expansion Joint
	ZA03176	Drums, Water	ZA04070	Inner Stack
	ZA03180	Seats, Manhole, Water Druss	ZA04080	Inner Stack Drain Guttering
	ZA03200	Plate, Manhole, Water Druss	ZA04100	Inner Access Doors
	ZA03210	Gasket, Manhole, Water Drums	ZA04110	Brick Pan
	ZA03220	Tube Sheet, Water Drups	ZA04120	Tie Bere
	ZA03230	Desuperheater, Water Drum .	ZA04130	Gaskets

ZA00000 BOILERS

ZAG	4140	Inner Seddle OH Drup		ZA07140	Spring, Floater
ZAO	4150	Duter Front		ZA07150	Bracket, Geor
ZAG	4160	Outer Burner Plate		ZA07160	Neck, Goose
ZAO	4170	Outer Rear		ZA07170	Reil, Letch
ZAG	4160	Outer Economizer		ZA07180	Disc, Orifice
ZAO	4200	Outer Side		ZA07200	Packing
ZAO	4210	Outer Top		2A07210	Gland, Packing
ZAO	4220	Outer Expension Joint		ZA07220	Gear, Pinion
ZAO	4230	Outer Stack		ZA07230	Ring, Piston
ZAO	4240	Outer Stack Air Intake Screen		ZA07240	Disc, Pressure Control
ZAO	4250	Outer Access Doors		ZA07250	Ring, Seal
ZAO	4260	Sound Proofing Blower Room and	•	ZA07260	Bearing, Sleeve
ZAO	4270	Stack Cover		ZA07270	Gear, Spindle
ZAO	4280	Lagging and Insulation		ZA07280	Gear, Spirel
- ZAO	5000	FOUNDATION		ZA07300	Yoke, Stes
ZAO	5010	Bolts, Foundation		ZA07310	Tube, Swivel or Extension
ZAO	5020	Feet, Sliding		ZA07320	Wesher, Thrust
	5030	Braces		ZA07330	Coller, Thrust
ZAO	5040	Supports		ZA07340	Spring, Torsion
	6000	BURNERS, FUEL OIL		ZA07350	Valve, Disc and Steam Assy
	6010	Atomizer Assy		ZA07360	Seat, Valve
	6020	Air Register Assy		ZA07370	Blade, Nozzle
	6030	Quadros, Adjustable		ZA07380	Carriage, Traveling
ZAC	6040	Door, Air		ZA07410	Motor, Air Drive
ZAC	6050	Handle, Air Door		ZA07420	Valve, Air Check
ZAC	6060	Coller, Bearing	-	ZA08000	TURBINE, FORCE DRAFT BLOWER
ZAC	6070	Bushing		ZA08010	Casing, Turbine
ZAC	6080	Berrel, Burner		ZA08020	Casing, Gear
ZAC	6100	Valve, Check		ZA08030	Governor Speed Limiting Assy
ZAC	6110	Coller		ZA08040	Valve, Governor Assy
ZAC	6120	Yoke, Coupling		ZA08050	Trip, Over Speed Assy
ZAC	6130	Gasket, Copper		ZA08060	Gland, Packing Assy
ZAC	6140	Crank, Quedros		ZA08070	Bearing, Thrust Assy
ZAC	6150	Plate, Diffuser		ZA08080	Valve, Hand Assy
ZAC	06160	Neck, Goose		ZA08100	Blading, Rotating
ZAC	6170	Pinion, Intermediate		ZA08110	Bleding, Stationary
ZAG	6180	Tube, Jacket		ZA08120	Rotor, Shaft and Pinion
ZAC	6200	Glass, Observation Port		ZA08130	Turbine, Wheel or Rotor
ZAC	6210	Packing		ZA08140	Nozzle Block and Reversing Chambe
ZAC	6220	Springs		ZA08150	Bearing, Turbine and Pinion
ZAC	6230	Trigger		ZA08160	Gear, Governor Drive
> ZAC	7000	BLOWERS, SOOT		ZA08170	Deflectors, Oil
ZAC	7010	Head		ZA08180	Gear, Lube Oil Pump Drive
ZAC	7020	Element	18.2	ZA08200	Strainer, Lube Oil
ZAC	7030	Plate, Adapter	100	ZA08210	Filters, Lube Oil
ZAC	7040	Bearings	LEG	ZA08220	Zincs, Lube Oil
ZAC	7050	Housing, Bearing	Make 1	ZA08230	Cooler, Lube Oil
ZAC	7060	Bracket Hall House		ZA08240	Valve, Relief Casing
ZAC	7070	Bucking		ZA08250	Velve, Relief Oil
ZAC	7080	Can and the same	INE .	ZA68260	Nozzle
ZAC	7100	Coller	-14	ZA08270	Thermometer
ZAC	7110	Shaft, Crank		ZA08280	Gages
ZAC	7120	Coupling		EA08300	Indicators, Sight Flow
ZAC	7130	Ring, Dire Shield		ZA00310	Pen
				DILL.A.	AVAILABLE LUTT

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ZA10000
           VALVE, DRUM SAFETY
ZA10010
ZA10020
             Nozzle or Seat Assy
ZA10030
             Disc, Assy
ZA10040
             Guide, Assy
ZA10050
             Ring, Adjusting
ZA10060
             Spindle, Assy
ZA10070
ZA11000
           VALVE, DRUM PILOT ACTUATOR, SAFETY
ZA11010
ZA11020
             Nozzle or Seat Assy
ZA11030
            Disc, Assy
ZA11040
             Guide, Assy
ZA11050
            Ring, Adjustable
ZA11060
            Spindle or Stes Assy
ZA11070
            Spool, Cooling Assy
ZA11080
ZA11100
             Bushing, Cylinder
ZA11110
             Plate, Orifice
           VALVE, SUPERHEATER SAFETY
ZA12000
ZA12010
ZA12020
             Nozzle, or Seat, Assy
ZA12030
            Disc. Assy
ZA12040
             Guide, Assy
ZA12050
             Ring, Adjusting
ZA12060
             Spindle, Assy
ZA12070
             Spool, Cooling, Assy
           VALVES
ZA13000
ZA13010
             Hain Steam
ZA13020
             Aux Steam
ZA13030
             Main Feed
ZA13040
             Aux Feed
            Feed Stop Check
ZA13050
ZA13060
             Bottom Blow
ZA13070
             Surface Blow
ZA13080
             Traps
ZA13100
             Blow Overboard
ZA13110
             Guardina
            THERMOMETERS
ZA14000
           Dial, Capillary Tube and Bulb,
Direct Reading
Dial, Capillary Tube and Bulb,
Distant Reading
GAGE, BOILER WATER
ZA14010
ZA14020
ZA15000
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MAIN PROPULSION, STEAM * CONDENSERS AND VACUUM EQUIPMENT

ZH04000	TURBINE, MAIN CIRCULATING PUMP
ZH04010	Casing, Turbine
ZH04020	Governor, Speed Limiting Assembly
ZH04030	Valve, Governor, Assembly
ZH04040	Trip, Overspeed, Assembly
ZH04050	Gland, Packing Assembly
ZH04060	Bearing, Thrust, Assembly
ZH04070	Valve, Hand, Assembly
ZH04080	Gears, Governor Drive
Zh04100	Rotor Shaft and Pinion
ZH04110	Wheel or Rotor, Turbine
2H04120	Blading, Rotating
ZH04130	Blading, Stationary
ZH04140	Nozzle Block and Reversing Chambe
ZH04150	Bearings, Turbine and Pinion
ZH04160	Casing, Gear
ZH04170	Gear and Shaft
ZH04180	Bearings, Gear
2H04200	Deflectors, Oil
ZH04210	Sump, Lube Oil
ZH04220	Gears, Lube Oil Pump
ZH04230	Drive Gears, Lube Oil Pump
ZH04240	Strainer, Lube Qil
ZH04250	Cooler, Lube Oil
ZH04260	Zinc, Lube Oil Cooler
ZH04270	Plate, Support
ZH04280	Valve, Relief, Casing
ZH04300	Valve, Relief, Oil
ZH04310	Gages
ZH04320	Thermometers
ZH04330	Indicators, Sight Flow

1	2H05170	Gages	
	ZH05160	Boits, Packing	
	ZH05150	Gland, Packing	
	ZH05140	Packing	
	ZH05130	Bearing, Sleeve	
	ZH05120	Sleeve, Shaft	
	2H05110	Rings, Wearing	
	ZH05100	Liner, Throat	
1	ZH05080	Liner, Casing	
T	ZH05070	Coupling	
	ZH05060	Nut, Propeller	
	ZH05050	Key, Propeller	
	ZH05040	Sheft	
	ZH05030	Propeller	
	ZH05020	Gasket, Casing	
	ZH05010	Casing	
-	ZH05000	PUMP, MAIN CIRCULATING	

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MAIN PROPULSION, STEAM * FEED AND CONDENSATE SYSTEM

-	2901000	PUMP, MAIN CONGENSATE
	2901010	Coupling
	2001020	Shaft
	2001030	Sleeve, Shaft
	2001040	Impellers
	7901050	Wearing Rings, Impeller
	2401960	Wearing Rings, Casing
	2001070	Bearing, Sleeve
	2001080	Bearing, Thrust
	2001100	Packing, Stuffing Box
	2001110	Gland, Stuffing Box
	ZQ01120	Bolts, Stuffing Box Gland
	2001130	Gaskets
	ZQ01140	Bushing, Throat
	2001150	Seal Cage
	2001160	Casing
	2001170	Bearing, Ball

-	2002000	PUMP, MAIN FEED BOOSTER
T	2002010	Coupling
1	2002020	Shaft
	2002030	Sleeve, Shaft
	ZQ02040	Impellers
	2002050	Wearing Rings, Impeller
	2002060	Wearing Rings, Casing
	2002070	Bearing, Sleeve
	ZQ02080	Bearing, Thrust
	2002100	Packing, Stuffing Box
	2002110	Gland, Stuffing Box
	ZQ02120	Bolts, Stuffing Box Gland
	2002130	Gaskets
	2002140	Bushing, Throat
	2002150	Seal Cage
	ZQ02160	Cosing
	2002170	Bearing, Ball

*EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

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2903000	PUMP, MAIN FEED
2003010	Coupling
2003020	Sheft
2003030	Sleeve, Shaft
2003040	Impeliers
ZQ03050	Wearing Rings, Ispeller
2903060	Wearing Rings, Casing
2003070	Bearing, Sleeve
2903080	Bearing, Thrust
2003100	Packing, Stuffing Box
2003110	Gland, Stuffing Pox
2003120	Bolts, Stuffing Box Gland
2003130	Gaskets
ZQ03140	Bushing, Throat
2003150	Sleeve, Labyrinth
2003160	Ring, Labyrinth
2903170	Housing, Labyrinth
ZQ03180	Ring, Seal
2003200	Sleeve, Pressure Breakdown
2003210	Bushing, Pressure Breakdown
ZQ03220	Diaphress
2903230	Cosing
2003240	Valve, Automatic Recirculating,

7010000	TURBINE, MAIN CONDENSATE PUMP
2010010	Casing, Turbine
2010020	Casing, Gear
2010030	Governor, Speed Limiting, Assembly
2010040	Valve, Governor, Assembly
2010050	Trip, Overspeed, Assembly
2010060	Packing Gland Assembly
ZQ10070	Bearing, Thrust, Assembly
ZQ10080	Valve, Hand, Assembly
2910100	Bleding, Rotating
2910110	Blading, Stationery
ZQ10120	Rotor Shaft and Pinion
ZQ10130	Wheel or Rotor, Turbine
2910140	Nozzle Plock and Reversing Chamber
2010150	Nozzle
2010160	Bearings, Turbine and Pinion
ZQ10170	Beerings, Gear
ZQ10200	Deflectore, Oil
ZQ10210	Gears, Lube Cil Pump
2910220	Gears, Governor Drive
2910230	Gears, Lube Oil Pump Drive
2910240	Streiner, Lube Oil
2910250	Filter, Lube Gil
2910260	Cooler, Lube Oil
2910270	Zince, Lube Oil Cooler
2910280	Valve, Relief, Casing
2910300	Velve, Relief, Oil
2910310	Cages

Indicator, Sight Flow

A-111 2010350

MAIN PROPULSION, STEAM * PEED AND CONDENSATE SYSTEM

ZQ12000	TURBINE, MAIN FEED BOOSTER PUNP
2012010	Casing, Turbine
2012020	Casing, Gear
2412030	Governor, Speed Limiting, Assembly
ZQ12040	Velve, Governor, Assembly
2912050	Trip, Overspeed, Assembly
2912060	Packing, Gland Assembly
2012070	Bearing, Thrust, Assembly
ZQ12080	Valve, hand, Assembly
2912100	Blading, Rotating
2912110	Blading, Stationery
2012120	Rotor Sheft and Pinion
2012130	Wheel or Rotor, Turbine
ZQ12140	Nozzle Block and Reversing Chamber
2012150	Nozzle
2012160	Bearings, Turbine and Pinion
2012170	Bearings, Geer
2912180	Geer and Sheft
2912200	Deflectors, Dil
2012210	Gears, Lube Oil Pump
ZQ12220	Geers, Governor Drive
ZQ12230	Gears, Lube Oil Pump Drive
2912240	Strainer, Lube Oil
2012250	filter, Lube Oil
2912260	Cooler, Lube Oil
ZQ12270	Zincs, Lube Oil Cooler
2912280	Valve, Relief, Coming
2012300	Valve, Relief, Oil
ZQ12310	Gages
2012320	Thermometers
2912330	Indicator, Sight Flow

*EIC Structure for indices extracted from ARINC Research Publication 933-02-3-1153

2	013000	TURBINE, MAIN FEED PUMP
	013010	Casing, Turbine
_	013020	Governor, Speed Limiting, Assembly
-	Q13030	Velve, Governor, Assembly
_	013040	Trip, Overspeed, Assembly
	013050	Gland Packing Assembly
	013060	Bearing, Thrust, Assembly
_	013070	Valve, Hand, Assembly
_	013080	Blading, Rotating
	013100	Blading, Stationary
	913110	Rotor Shaft and Pinion. Turbine
	013120	Wheel or Rotor, Turbine
2	013130	Gears. Governor Drive
	013140	Nozzle Block and Reversing Chapter
	013150	Nozzle
	Q13160	Bearings, Turbine and Pinion
-	013170	Deflector, Oil
2	013180	Gears, Lube Oil Pump
Z	013200	Gears, Governor Drive
2	013210	Gears, Lube Oil Pump Drive
Z	013220	Strainer, Lube Oil
Z	Q13230	Filter, Lube 011
2	Q13240	Cooler, Lube Di)
Z	Q13250	Zince, Lube Oil Cooler
2	Q13260	Valve, Relief, Casing
Z	913270	Valve, Relief, Oil
Z	Q13280	Gages
Z	Q13300	Thermometers
2	Q13310	Indicator, Sight flow
Z	013320	Hydro-Pneumetic Pressure Controller Assembly

ZQ17000	MOTOR, MAIN CONDENSATE PUMP
ZQ17010	Vindings, Field
ZQ17020	END Bell
ZQ17030	Bearings
ZQ17040	Retainer, Bearing

ZQ18000 MOTOR, MAIN FEED BOOSTER PUMP ZQ18010 Windings, Field ZQ18020 EMD Bell ZQ18030 Bearings ZQ18040 Retainers, Bearing

ZQ65000 MOTOR, MAIN FEED PUMP



MAIN PROPULSION, STRAN LUBBICATING OIL SYSTEM

	2005010	Bowl Assembly
	3005020	Bowl Spindle Assembly
	2005030	Brake Assembly
	2005040	Frame Cover & Inlet Assembly
	8005050	Speed Indicator
	2005060	Worm Wheel & Priction Clutch
	2005070	Assembly Bonsing Plate & Pumps Assembly
	2005080	Bottom Screw Assembly
	2005100	Heater Assembly
	2005110	Gages
	2006120	Thermometers
	2005130	Piping
_		

2014000	PURIFIER, LUBE OIL, SEARPLES
2014010	Bearing Assembly
2014011	Bearing, Rall
2014012	Clutch, Penale
2014013	Clutch, Bale
2014014	Coupling, Flexible
2014015	Spacer
ZU14016	Spindle
2014017	Coupling, Spindle
2014020	Belt
2014030	Bowl, Assembly
2014031	Bowl, Boss Sleeve
2014032	Screw Discharge
2014033	Ring, Dan
2014034	Three, Wing
2014040	Bowl, Cover Assembly
2014050	Drag Assembly
2014051	Bushing, Drag
8014052	Gasket Drag, Housing
au14053	Spring, Drag
2014054	Washer, Drag
8014055	Bozzles, Fuel
2014060	Trane -
2014070	Idler Assembly
8014071	Bearing, Sell
8014072	ares Idler
2014072	Arms Idler

2014073	Polly Idler
2014074	Spring, Idler
\$814080	Motor, AC Parifier Lube Oil Sharples
2014081	dousing, Bearing
2014082	Bell, BND or Brackets, BND
2014083	Winding, Coil Slot Section
2014084	Winding, Coil END Turns
2014085	Rings, Connection
2014086	Leads
2014087	Wedges, Slot
2014088	Boards, Terminal
2014082	Heaters
201408B	Pan, Assembly
801408C	Rings, Balance
201408D	Bings, END
301408E	Slinger
201408P	Bearing Seat Shaft
2014100	Motor, DC, Purifier, Lube Oil Sharples
2014101	Housing, Bearing
8014102	Bells, END or Brackets, END
8014103	Heaters
2014104	Brush Rigging, Assembly
2014105	Winding, Series
2014106	Winding, Shunt
3014107	Binding, Commutating
2014108	Leads
2014101	Boards, Terminal
201410B	Trip, Overspeed
201410C	Fan, Assembly
2014 10D	Slinger
201410E	Bearing Seat, Shaft
2014 10F	Rings, Balance
2014 10G	Commutator
2014 10R	Winding, Coil Slot Section
2014103	Winding, Coil END Turns
2014 10K	Winding, Equalizer
201410L	Tedges, Slot
E01410B	Banding
8014110	Controller, Motor, Lube Oil Purifier, Sharples Pusp, Lube, Oil Purifier
8014120	
8014121	Bearing
2014122	Bushing
8014123	Casing
2014124	Gear
8014125	Packing
2014126	Gland, Packing

Coupling, Shaft

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MAIS PROPULSION, STRAN LUBNICATING OIL STSTEM

-	8016000	PORIFIER, LORE OIL, DELAVAL	8016053	<u> </u>
	2016010	Spindle Assumbly Bowl	2016054	Brush Rigging, Assy
	2016011	Bearing, Ball	2016055	Winding, Series
	3816012	Spindle, Bowl	2016056	Winding, Shunt
	2016013	Plate, Cover	2016057	Winding, Consutating
	2016014	Bing, Plexible	2016058	Leads
	ED16015	Cover, Protective	EU1605A	Boards, Terminal
	2016016	Bearing, Top Plate	2U1605B	Trip, Overspeed
	2016017	Sleeve,Bearing	201605C	Yan, Assy
	2016020	Brake Assembly	ZU1605D	Slinger
	ZU16021	Plunger, Brake	201605E	Bearing Seat, Shaft
	2016022	Spring, Brake	\$01605F	Rings, Balance
	2016023	Bushing	301605G	Commutator
	2016024		3U1605H	Winding, Coil Slot Section
		Cap	201605J	Winding, Coil END Turns
	2016025	Lever Pad	201605K	Winding, Equalizer
	2016026		B01605L	Wedges,Slot
	2016027	Spring, Plunger	201605B	Banding
	ZU16030	Cover Frame, and Inlet Assy	2016060	Controller, Motor, Lube Oil Puritier, Delaval
	2016031	Ball	8016070	Pump, Discharge
	2016032	Spring, Ball Check	2016080	Pump, Suction
	2016033	Plug, Distributing	2016100	Indicator Assy, Speed
	2016034	Plunger	3016101	Cas
	2016035	Gear, Pump Drive	3016102	Cap
	2016036	Tube Regulating	2016103	Wheel, Gear
	2016040	Motor, AC, Purifier, Lube Oil, Delaval	2016104	Shaft
	2016041	Housing, Bearing	2016105	Sleeve
	2016042	Bell, END or Bracket END	3016106	Plunger
	2016043	Winding, Coil Slot Section	2016110	Worm, wheel and Friction Clutch
	2016044	Winding, Coil END Terus	2016111	Adapter, Sleeve
	2016045	Bings, Connection	2016112	Block, Spacer
	2016046	Leads	8016113	Block, Priction
	2016047	Wedges,Slot	2016114	Bub. Priction
	2016048	Boards, Terminal	2016115	Bing, Priction
	2016041	Beaters	2016116	Worm and Wheel
	301604B	Pan Assembly	2016120	Screw Assy Botton
	ZU1604C	Rings, Balance	2016130	Plato, Housing, Pump Assy
	201604D	Bings, 2ND	2010.30	
	Z01604E	Slinger		
	201604P	Bearing Seat, Shaft		

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2016050

2016051

1016052

Motor, DC, Purifier, Lube Oil, Delaval

Bells, RND or Brackets, BND

Bousing, Bearing

APPENDIX B

EQUIPMENT HOW-MALFUNCTION CODE LISTS FOR FAILURE, CORRECTIVE MAINTENANCE, AND NO POSSIBLE FIT

Tables B-1 through B-14 present the inputs to the computer program for identification and classification of maintenance events as described in Volume I, Chapter Five, Section 5.3. They are included in this volume to aid in interpreting the indices presented in Chapters Two and Three.

Nomenclature	How-Malfunction Code				
and Equipment I.D. Codes	Failure	Corrective Maintenance	No Possible Fit		
Purifiers	008-Noisy	000-No malfunction*	004-Low GM or emission		
1F28	023-Blown	020-Worn excessively	007-Arcing, arced		
1F30	068-Operative	054-Faulty part, material	015-Broken glass		
1G43	070-Broken	093-Missing part	021-Overloaded		
1G44	080-Burned out	099-Other	050-Blistered		
AJ09	135-Binding	117-Deteriorated	051-Failed to tune		
AJG3	180-Clogged	120-Chafed	088-Low gain		
AJG4	190-Cracked	127-Adjustment	091-Low sensitivity		
ZUO5	196-Shorted or	improper	116-Cut		
ZU15	grounded	148-Eroded	169-Voltage incorrect		
ZU16	235-Dry	160-Contacts, connections	225-Manufacturer's		
2010	242-Failed to	defective	defect		
	operate	161-Output incorrect	276-Weak		
	255-No output	170-Corroded	428-Incorrect reading		
	270-Frozen	175-Clearance over max.	472-Fuze blown		
	315-RPM fluctuating	185-Contaminated	576/476-Ruptured		
	346-Misaligned	214-Grooved	649-Sweep malfunction		
	370-Jammed	226-Excessive play	665-Terminals reverse		
	374-Internal	230-Dirty	692-Video faulty		
	failure	231-Elongated	693-Audio faulty		
	439-Plugged	233-Erratic	700-Weak electrically		
	458-Out of balance	239-Improper fit	748-Frequency erratio		
	512-Split	259-Oversize	819-Contacts do not		
	585-Sheared	275-Undersize	open/close proper		
	660-Stripped	300-Grounded	884-Terminal or lead		
	690-Vibration	360-Intermittent operation	broken		
	excessive	381-Leaking	928-Pelling		
	710-Bearing	440-Old age	947-Torn		
	failure	450-Open	962-Low power		
	722-Weld cracked	462-Output too low	978-Wall thickness no		
	or broken	464-Overspeed	to specification		
	AN ARTHURS A	524-Pressure too low	984-Low specific		
		680-Unstable	gravity		
		701-Warped	991-Salinity too high		
	CONTRACTOR OF THE PARTY OF THE	720-Brush failure	992-Lost at sea		
		730-Loose			
	No. of the last of	750-Missing			
	LO UTBOOK	771-Scale excessive			
		780-Bent			
	A STATE OF THE STA	900-Burned			
		910-Chipped			
		935-Scored			

*Required here for computer-program consistency.

		How-Malfunction Code			
Nomenclature	HOW-mairunction Code				
I.D. Code	Failure	Corrective Maintenance	No Possible Fit		
HO1-Propellers, Variable Pitch BH00-Stabilizer, Fin Type	008-Noisy 021-Overloaded 023-Blown 068-Inoperative 070-Broken 190-Cracked 233-Erratic 235-Dry 242-Failed to operate 255-No output 270-Frozen 370-Jammed 374-Internal failure 381-Leaking 512-Split 476/576-Ruptured 585-Sheared 660-Stripped 690-Vibration excessive 710-Bearing failure 722-Weld cracked or broken	000-No malfunction 020-Worn excessively 054-Faulty part, material 093-Missing part 099-Other 117-Deteriorated 127-Adjustment Improper 135-Binding 170-Corroded 175-Clearance over max. 180-Clogged 185-Contaminated 214-Grooved 226-Excessive play 230-Dirty 231-Elongated 239-Improper Fit 259-Oversize 275-Undersize 346-Misaligned 439-Plugged 440-Old age 458-Out of balance 524-Pressure too low 680-Unstable 701-Warped 730-Loose 780-Bent 900-Burned 910-Chipped 928-Pelling 935-Scored	004-Low GM or emission 007-Arcing, arced 015-Broken glass 050-Blistered 051-Failed to tune 080-Burned out 088-Low gain 091-Low sensitivity 116-Cut 120-Chafed 148-Eroded 160-Contacts, connections defective 161-Output incorrect 169-Voltage incorrect 196-Shorted or grounded 225-Manufacturer's defect 276-Weak 300-Grounded 315-RPM fluctuation 360-Intermittent operation 428-Incorrect reading 450-Open 462-Output too low 464-Overspeed 472-Fuze blown 649-Sweep malfunction 665-Terminals reversed 692-Video faulty 693-Audio faulty 700-Weak electrically 720-Brush failure 748-Frequency erratic 750-Missing 771-Scale excessive 819-Contacts do not open/close properly 884-Lead or terminal broken 947-Torn 962-Low power 978-Wall thickness not to specification 984-Low specific gravity 991-Salinity too high		

Nomenclature	How-Malfunction Code				
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit		
Air Conditioning and Refrigeration Systems AAO1 AAO3 AAO4 AAO5 AAO6 AAO7 AMO1 AMO2 AMO3	008-Noisy 023-Blown 068-Inoperative 070-Broken 080-Burned out 190-Cracked 196-Shorted or grounded 242-Failed to operate 255-No output 270-Frozen 374-Internal failure 450-Open 476/576-Ruptured 585-Sheared 710-Bearing failure 720-Brush failure 722-Weld cracked or broken 771-Scale excessive	000-No malfunction* 007-Arcing, arced 015-Broken glass 020-Worn excessively 021-Overloaded 054-Faulty part, material 093-Missing part 099-Other 116-Cut 117-Deteriorated 120-Chafed 127-Adjustment improper 135-Binding 148-Eroded 161-Output Incorrect 170-Corroded 175-Clearance over max. 180-Clogged 185-Contaminated 214-Grooved 226-Excessive play 230-Dirty 231-Elongated 233-Erratic 239-Improper fit 259-Oversize 275-Undersize 300-Grounded 346-Misaligned 360-Intermittent operation 381-Leaking 428-Incorrect reading 439-Plugged 440-Old age 458-Out of balance 462-Output too low 512-Split 524-Pressure too low 660-Stripped 680-Unstable 690-Vibration excessive 701-Warped 730-Loose 780-Bent 819-Contacts do not open/close properly 884-Lead or terminal broken 900-Burned 910-Chipped 928-Pelling 935-Scored 978-Wall thickness not to specification	004-Low GM or emission 050-Blistered 051-Failed to tune 088-Low gain 091-Low sensitivity 160-Contacts, connections defective 169-Voltage incorrect 225-Manufacturer's defect 235-Dry 276-Weak 315-RPM fluctuating 370-Jammed 464-Overspeed 472-Fuze blown 649-Sweep malfunction 655-Terminals reversed 692-Video faulty 700-Weak electrically 748-Frequency erratic 750-Missing 947-Torn 962-Low specific gravity 991-Salinity too high 992-Lost at sea		

Nomenclature	How-Malfunction Code				
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit		
AB01/AB18-Compressor,	008-Noisy	000-No malfunction*	004-low GM or		
Reciprocating	021-Overload	020-Worn excessively	emission		
High Pressure	068-Inoperative	023-Blown	007-Arcing, arced		
Air Service	070-Broken	054-Faulty part,	015-Broken glass		
the sale to the	080-Burned out	Material	050-Blistered		
CO1/AC10/AC43-	135-Binding	099-Other	051-Failed to tune		
Compressor,	190-Cracked	117-Deteriorated	088-Low gain		
Reciprocating	233-Erratic	127-Adjustment	091-Low sensitivity		
Electric Motor	235-Dry	improper	093-Missing part		
Drive, Low-	242-Failed to	148-Eroded	116-Cut		
Pressure and	operate	161-Output incorrect	120-Chafed		
Intermediate	255-No output	170-Corroded	160-Contacts, connec		
Pressure Air	270-Frozen	175-Clearance over max.	tions defective		
	370-Jammed	180-Clogged	169-Voltage incor-		
	374-Internal	185-Contaminated	rect		
But the residence of the second	failure	214-Grooved	196-Shorted or		
	381-Leaking	226-Excessive play	grounded		
	439-Plugged	230-Dirty	225-Manufacturer's		
	458-Out of balance	231-Elongated	defect		
	462-Output too low	239-Improper fit	276-Weak		
	512-Split	259-Oversize	300-Grounded		
	524-Pressure	275-Undersize	315-RPM fluctuating		
	too low	346-Misaligned	428-Incorrect readir		
	576/476-Ruptured	360-Intermittent	450-Open		
	585-Sheared 690-Vibration	operation	464-Overspeed 472-Fuze blown		
	excessive	440-Old age 660-Stripped	649-Sweep mal-		
	710-Bearing	680-Unstable	function		
	failure	701-Warped	665-Terminals re-		
	722-Weld cracked	730-Loose	verse		
	or broken	771-Scale excessive	692-Video faulty		
	780-Bent		693-Audio faulty		
	935-Scored		700-Weak electri-		
			cally		
			720-Brush failure		
			748-Frequency		
			erratic		
			750-Missing		
			810-Contacts do not		
			open		
			884-Lead or terminal		
			broken		
			900-Burned		
			910-Chipped		
			928-Pelling		
			947-Torn		
			962-Low power 978-Wall thickness		
			not to specifi-		
			cations		
			984-Low specific		
			gravity		
			991-Salinity too		
			high		
			992-Lost at sea		

Nomenclature	How-Malfunction Code			
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit	
AEO1/AEO7-Distilling Plant, Low Pressure, Submerged Tube Type AEO2-Distilling Plant, Low Pressure, Flash Type AEO3-Distilling Plant, Vapor Compression	021-Overloaded 023-Blown 068-Inoperative 070-Broken 080-Burned out 180-Clogged 185-Contaminated 190-Cracked 196-Shorted or grounded 242-Failed to operate 255-No output 270-Frozen 370-Jammed 374-Internal failure 439-Plugged 450-Open 576/476-Ruptured 585-Sheared 710-Bearing failure 720-Brush failure 722-Weld cracked or broken	093-Missing part 099-Other 117-Deteriorated 120-Chafed 127-Adjustment improper 135-Binding 148-Eroded 160-Contacts, connections defective 161-Output incorrect 170-Corroded 175-Clearance over max.	004-Low GM or emission 051-Failed to tune 088-Low Gain 091-Low sensitivity 116-Cut 169-Voltage incorrect 225-Manufacturer's defer 235-Dry 276-Weak 315-RPM fluctuating 428-Incorrect reading 464-Overspeed 472-Fuze blown 649-Sweep malfunction 665-Terminals reversed 692-Video faulty 693-Audio faulty 700-Weak electrically 748-Frequency erratic 947-Torn 962-Low power 984-Low specific gravit; 992-Lost at sea	

	How-Malfunction Code				
omenclature nd Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit		
		Maintenance			
All Pumps:	021-Overload 023-Blown	000-No malfunction*	004-Low GM or emission 007-Arcing or arced		
AH17	070-Broken	020-Worn excessively	015-Broken glass		
AH22	080-Burned out	054-Faulty part, material	050-Blistered		
AH31	135-Binding	068-Inoperative	051-Failed to tune		
AJ01	180-Clogged	099-Other	088-Low gain		
AJ04	190-Cracked	117-Deteriorated	091-Low sensitivity		
AJ27	255-No output	127-Adjustment improper	093-Missing part		
AJ34	270-Frozen	148-Eroded	116-Cut		
AJ35	370-Jammed	161-Output incorrect	120-Chafed		
AJ38	381-Leaking	170-Corroded			
AJ42		175-Clearance over max.	160-Contacts, connection defective		
AJ53	439-Plugged	The state of the s			
	462-Output too low	185-Contaminated	169-Voltage, incorrect		
AJ56 AJ64	512-Split	214-Grooved	196-Shorted or grounded		
	576/476-Ruptured	226-Excessive play	225-Manufacturer's defec		
AJ82	585-Sheared	230-Dirty	276-Weak		
AJ86	680-Unstable	231-Elongated	300-Grounded		
AJB2	710-Bearing failure	233-Erratic	315-RPM fluctuating		
AJE6	722-Weld cracked or	235-Dry	428-Incorrect reading		
AJF3	broken	239-Improper fit	450-Open		
AJG3		242-Failed to operate	464-Overspeed		
AJG4		259-Oversize	472-Fuze blown		
AJH1		275-Undersize	649-Sweep malfunction		
AP23		346-Misaligned	665-Terminals reversed		
AP28		360-Intermittent operation	692-Video faulty		
AXO4		374-Internal failures	693-Audio faulty		
AX05		440-Old age	700-Weak electrically		
AX10		458-Out of balance	720-Brush failure		
AX14		524-Pressure too low	748-Frequency erratic		
AX15		660-Stripped	750-Missing		
AP23		690-Vibration excessive	819-Contacts do not open		
AP28		701-Warped	884-Lead or terminal		
ZHO5		730-Loose	broken		
ZQ01		771-Scale excessive	900-Burned		
ZQ02		780-Bent	910-Chipped		
ZQ03		935-Scored	928-Pelling		
1F01			947-Torn		
1F10			962-Low power		
1F14 1F18		The Control of the Co	978-Wall thickness not t specification		
			984-Low specific gravity		
			991-Salinity too high 992-Lost at sea		

^{*}Required here for computer-program consistency.

Table B-7. GENERATORS, MOTORS, AND MOTOR GENERATOR SETS: HOW-MALFUNCTION CODES

Nomenclature	How-Malfunction Code				
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit		
Generators, Motors and Motor Generator Sets 1B00-Generators, Propulsion 1C00-Motors, Propulsion PA01-Generators, AC, SSTG Set PB01-Generator, DC, SSTG Set PE00-Generator, AC, Auxil. PF00-Generator, DC, Auxil. PG00-Generating Systems Minesweeping QD00-400 Cycle Power Conversion System QL00-60 Cycle Power Conversion System QM00-DC Power Conversion System QM00-DC Power Conversion System ZH07-Motor, Main Circulating Pump ZQ17-Motor, Main Condensate Pump ZQ18-Motor, Main Feed Booster Pump	068-Inoperative 080-Burned out 135-Binding 161-Output, Incorrect 169-Voltage Incorrect 196-Shorted or grounded 233-Erratic 242-Failed to operate 255-No output 270-Frozen 300-Grounded 315-RPM fluctuating 360-Intermittent operation 374-Internal failure 450-Open 458-Out of balance 462-Output too low 690-Vibration excessive 710-Bearing failure 720-Brush failure 748-Frequency erratic 884-Lead or terminal broken 900-Burned	000-No malfunction* 007-Arcing, arced 008-Noisy 020-Worn excessively 021-Overloaded 050-Blistered 054-Faulty part, material 099-Other 117-Deteriorated 120-Chafed 127-Adjustment Improper 148-Eroded 170-Corroded 170-Corroded 175-Clearance over max. 185-Contaminated 214-Grooved 226-Excessive play 230-Dirty 231-Elongated 239-Improper fit 259-Oversize 275-Undersize 276-Weak 346-Misaligned 428-Incorrect reading 440-Old age 464-Overspeed 660-Stripped 680-Unstable 730-Loose 780-Bent 935-Scored 962-Low power	004-Low GM or emission 015-Broken glass 023-Blown 051-Failed to tune 070-Broken 088-Low gain 091-Low sensitivity 093-Missing part 116-Cut 160-Contact, connection defective 180-Clogged 190-Cracked 225-Manufacturer's defect 235-Dry 370-Jammed 381-Leaking 439-Plugged 472-Fuse blown 512-Split 524-Pressure too low 576/476-Ruptured 585-Sheared 649-Sweep malfunction 665-Terminals reversed 692-Video faulty 693-Audio faulty 700-Weak electrically 701-Warped 722-Weld cracked or broken 750-Missing 771-Scale excessive 819-Contacts do not open/ close properly 910-Chipped 928-Pelling 947-Torn 978-Wall thickness not to		

^{*}Required here for computer-program consistency.



Nomenclature	- E 15 KONSENSE WINDS	How-Malfunction Code		
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit	
Conveyors KT04	068-Inoperative 070-Broken	000-No malfunction* 008-Noisy	004-Low GM or emission 007-Arcing, arced	
Elevator, Cargo KT06	135-Binding 196-Shorted or grounded 233-Erratic	020-Worn excessively 021-Overloaded 054-Faulty part,	015-Broken glass 023-Blown 050-Blistered 051-Failed to tune	
Elevator, Stores KT07	233-Erratic 242-Failed to operate 255-No output 270-Frozen 300-Grounded 360-Intermittent operation 370-Jammed 450-Open 464-Overspeed 585-Sheared 710-Bearing failure 720-Brush failure 810-Contacts do not open/close properly 884-Lead of terminal broken	material 080-Burned out 093-Missing part 099-Other 116-Cut 117-Deteriorated 120-Chafed 127-Adjustment improper 148-Eroded 160-Contacts connection defective 170-Corroded 175-Clearance over max. 180-Clogged 185-Contaminated 190-Cracked 214-Grooved 226-Excessive play 230-Dirty 231-Elongated 239-Improper fit 259-Oversize 275-Undersize 275-Undersize 276-Weak 346-Misaligned 374-Internal failure 381-Leaking 439-Plugged 440-Old age 458-Out of balance 462-Output too low 512-Split 576/476-Ruptured 660-Stripped 680-Unstable 690-Vibration excessive 701-Warped 722-Weld cracked or broken 730-Loose	051-Failed to tune 088-Low gain 091-Low sensitivity 161-Output incorrect 169-Voltage incorrect 225-Manufacturer's defect 235-Dry 315-RPM fluctuating 428-Incorrect reading 472-Fuze blown 524-Pressure too low 649-Sweep malfunction 665-Terminals reversed 692-Video faulty 693-Audio faulty 700-Weak electrically 748-Frequency erratic 771-Scale excessive 978-Wall thickness not to specifications 984-Low specific gravit 991-Salinity too high 992-Lost at sea	
	MAVA 1220	750-Missing 780-Bent 900-Burned 910-Chipped 928-Pelling 935-Scored 947-Torn 962-Low power		

*Required here for computer-program consistency.

Nomenclature		How-Malfunction Code	
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit
Winch, Electric	008-Noisy	000-No malfunction*	004-Low GM or emissi
Windlass, Electric	068-Inoperative 070-Broken	007-Arcing, arced 020-Worn excessively	015-Broken glass 023-Blown
Towing Machine	080-Burned out	021-Overloaded	051-Failed to tune
Minesweeping	160-Contact connec-	050-Blistered	088-Low gain
Machinery	tions defective	054-Faulty part, material	091-Low sensitivity
KC01	grounded	093-Missing part	148-Eroded
KG01	242-Failed to	099-Other	180-Clogged
KG03	operate	117-Deteriorated	185-Contaminated
KG06	270-Frozen	120-Chafed	225-Manufacturer's
кн03	300-Grounded	127-Adjustment	defect
KH04	370-Jammed	improper	233-Erratic
KH05	450-Open	135-Binding	235-Dry
KH06	585-Sheared	161-Output incorrect	374-Internal failure
кн07	710-Bearing failure	169-Voltage incorrect	428-Incorrect reading
KK00	720-Brush failure	170-Corroded	439-Plugged
KK01	722-Weld cracked or	175-Clearance over	464-Overspeed
KK02	broken	max.	512-Split
KK03	810-Contacts do not	190-Cracked	524-Pressure too lov
KV00	open/close properly	21.4-Grooved	576/476-Ruptured
KV01	884-Lead or terminal	226-Excessive play	649-Sweep malfunction
KV03	broken	230-Dirty	692-Video faulty
KV04	900-Burned	231-Elongated	693-Audio faulty
K101	300 Barnea	239-Improper fit	748-Frequency errati
K102		255-No output	771-Scale excessive
K106		259-Oversize	947-Torn
K113		275-Undersize	962-Low power
LEO1		276-Weak	978-Wall thickness r
LEO5		315-RPM fluctuating	to specification
		346-Misaligned	984-Low specific
	TO ALL SUFFICIENTS OF THE PROPERTY OF THE PROP	360-Intermittent	gravity
		operation	991-Salinity too hig
		381-Leaking	99%-Lost at sea
The state of the s		440-Old age	
		458-Out of balance	
		462-Output too low	
		472-Fuze blown	
		660-Stripped	
		665-Terminals reversed	
		680-Unstable	
		690-Vibration excessive	
		700-Weak electrically	
		701-Warped	
		730-Loose	
		750-Missing	
		780-Bent	
		910-Chipped	
		928-Pelling	
		935-Scored	

*Required here for computer-program consistency.

Table B-10. WINCH-WINDLASS ELECTRO-HYDRAULIC: HOW-MALFUNCTION CODES

Nomenclature	0.85	How-Malfunction Code	
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit
Winch, Electro-	008-Noisy	000-No malfunction*	004-Low GM or emission
Hydraulic	023-Blown	007-Arcing, arced	050-Blistered
	068-Inoperative	015-Broken glass	051-Failed to tune
Windlass, Electro-	070-Broken	020-Worn excessively	088-Low gain
Hydraulic	080-Burned out	021-Overloaded	091-Low sensitivity
	180-Clogged	054-Faulty part, material	116-Cut
KG00	196-Shorted or	093-Missing part	120-Chafed
KG02	grounded	099-Other	169-Voltage incorrect
KG04	242-Failed	117-Deteriorated	233-Erratic
KK06	270-Frozen	127-Adjustment improper	239-Improper fit
KU00	370-Jammed	135-Binding	255-No output
KU01	374-Internal	148-Eroded	259-Oversized
KV02	failure	160-contacts, connections	275-Undersized
K112	439-Plugged	defective	276-Weak
к115	576/476-Ruptured	161-Output incorrect	315-RPM fluctuating
K123	585-Sheared	170-Corroded	360-Intermittent
	660-Stripped	175-Clearance over max.	operation
	690-Vibration	185-Contaminated	428-Incorrect reading
	excessive	190-Cracked	464-Overspeed
	710-Bearing	214-Grooved	472-Fuze blown
	failure	225-Manufacturer's defect	512-Split
	720-Brush failure	226-Excessive play	649-Sweep malfunction
	722-Weld cracked	230-Dirty	680-Unstable
	or broken	231-Elongated	692-Video faulty
		235-Dry	693-Audio faulty
		300-Grounded	700-Weak electrically
		346-Misaligned	748-Frequency erratic
		381-Leaking	771-Scale excessively
		440-Old age	900-Burned
		450-Open	910-Chipped
		458-Out of balance	928-Pelling
		462-Output too low	947-Torn
		465-Terminals reversed	962-Low power
		524-Pressure too low	984-Low specific gravit
		701-Warped	991-Salinity too high
		730-Loose	992-Lost at sea
		750-Missing	
		780-Bent	
		819-Contacts do not open/	
		close properly	
		884-Lead or terminal	
		broken	
		935-Scored	
		978-Wall thickness not	
		to specification	

^{*}Required here for computer-program consistency.

Table B-11. BOILERS: HOW-MALFUNCTION CODES

Nomenclature	How-Malfunction Code				
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit		
Boilers:	023-Blown	000-No malfunction*	004-Low GM or emission		
ZA00	068-Inoperative	020-Worn excessively	007-Arcing, arced		
	070-Broken	050-Blistered	008-Noisy		
Refractory	080-Burned out	054-Faulty part, material	015-Broken glass		
ZA01	242-Failed to operate	093-Missing part	021-Overloaded		
	270-Frozen	099-Other	051-Failed to tune		
Fire Sides	370-Jammed	116-Cut	088-Low gain		
ZAO2	374-Internal failure	117-Deteriorated	091-Low sensitivity		
	381-Leaking	135-Binding	120-Chafed		
Water Sides	576/476-Ruptured	148-Eroded	127-Adjustment improper		
ZAO3	512-Split	170-Corroded	160-Contacts, connections		
	524-Pressure too low	175-Clearance over max.	defective		
Casing	585-Sheared	180-Clogged	161-Output incorrect		
ZAO4	722-Weld cracked or	185-Contaminated	169-Voltage incorrect		
	broken	190-Cracked	196-Shorted or grounded		
Foundation		214-Grooved	225-Manufacturer's defect		
ZA05		226-Excessive play	233-Erratic		
		230-Dirty	235-Dry		
Burners		231-Elongated	300-Grounded		
ZA06		239-Improper fit	315-RPM fluctuating		
		255-No output	360-Intermittent operation		
		259-Undersize	428-Incorrect reading		
		275-Oversize	450-Open		
		276-Weak	458-Out of balance		
		346-Misaligned	462-Output too low		
		439-Plugged	464-Overspeed		
	- Dright and the	440-Old age	472-Fuze blown		
	nor an Electric section	660-Stripped	649-Sweep malfunction		
	AND THE RESIDENCE OF THE PARTY	701-Warped	665-Terminals reversed		
	The state of the second st	730-Loose	680-Unstable		
	at ensure contains I	750-Missing	690-Vibration excessive		
	STATES THE STATE OF THE AM	771-Scale excessive	692-Video faulty		
	Care Springer of the Care	780-Bent	693-Audio faulty		
	Care of the Care o	900-Burned	700-Weak electrically		
	entitives.	910-Chipped	710-Bearing failure		
	- AND THE PERSON OF	935-Scored	720-Brush failure		
	and a first	947-Torn	748-Frequency erratic		
	Committee of the commit	978-Wall thickness not	819-Contacts do not open/		
		to specifications	close properly		
	CONTRACTOR OF THE STREET		884-Lead or terminal brok		
	THE RESERVED TO SERVED STATES		928-Pelling		
	•		962-Low power		
			984-Low specific gravity		
			991-Salinity too high		
			992-Lost at sea		

^{*}Required here for computer-program consistency.

	How-Malfunction Code				
Failure	Corrective Maintenance	No Possible Fit			
O23-Blown 068-Inoperative 070-Broken 116-Cut 190-Cracked 233-Erratic 242-Failed to operate 270-Frozen 370-Jammed 374-Internal failure 439-Plugged 512-Split 576/476-Ruptured 585-Sheared 660-Stripped 722-Weld cracked or broken		No Possible Fit 004-Low GM or emission 007-Arcing, arced 008-Noisy 015-Broken glass 021-Overloaded 050-Blistered 051-Failed to tune 080-Burned out 088-Low gain 091-Low sensitivity 120-Chafed 160-Contacts, connection defective 169-Voltage incorrect 180-Clogged 196-Shorted or grounded 235-Dry 276-Weak 300-Grounded 315-RPM fluctuating 428-Incorrect reading 450-Open 458-Out of balance 462-Output too low 464-Overspeed 472-Fuze blown 649-Sweep malfunction 665-Terminals reversed 680-Unstable 690-Vibration excessive			
Total pay (Penn)	750-Missing 771-Scale excessive 780-Bent 819-Contacts do not open/	692-Video faulty 693-Audio faulty 700-Weak electrically 720-Brush failure			
etost otbutes of the control of the	900-Burned 910-Chipped 935-Scored 978-Wall thickness not	748-Frequency erratic 884-Lead or terminal broken 928-Pelling 947-Torn 962-Low power			
	023-Blown 068-Inoperative 070-Broken 116-Cut 190-Cracked 233-Erratic 242-Failed to operate 270-Frozen 370-Jammed 374-Internal failure 439-Plugged 512-Split 576/476-Ruptured 585-Sheared 660-Stripped 722-Weld cracked or broken	O23-Blown O68-Inoperative O70-Broken 116-Cut 190-Cracked 233-Erratic 242-Failed to Operate 370-Jammed 374-Internal failure 439-Plugged 512-Split 576/476-Ruptured 585-Sheared 660-Stripped 722-Weld cracked or broken Droken O00-No malfunction O20-Worn excessively O54-Faulty part, material O93-Missing part O99-Other 117-Deteriorated 127-Adjustment improper 135-Binding 148-Eroded 170-Corroded 175-Clearance over max. 185-Contaminated 214-Grooved 225-Manufacturer's defect 226-Excessive play 230-Dirty 231-Elongated 239-Improper fit 255-No output 259-Oversize 275-Undersize 346-Misaligned 360-Intermittent operation 381-Leaking 440-Old age 524-Pressure too low 701-Warped 710-Bearing failure 730-Loose 750-Missing 771-Scale excessive 780-Bent 819-Contacts do not open/ close properly 900-Burned 910-Chipped 935-Scored			

Nomenclature		How-Malfunction Code	
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit
Diesel Engines, Main Propulsion 1A00 Diesel Engine Auxiliary A100	008-Noisy 021-Overloaded 023-Blown 068-Inoperative 070-Broken 080-Burned out 135-Binding 161-Output incorrect 180-Clogged 185-Contaminated 190-Cracked 233-Erratic 235-Dry 242-Failed to operate 255-No output 270-Frozen 370-Jammed 374-Internal failure 439-Plugged 458-Out of balance 462-Output too low 464-Overspeed 512-Split 524-Pressure too low 576/476-Ruptured 585-Sheared 690-Vibration excessive 710-Bearing failure	000-No malfunction 020-Worn excessively 054-Faulty part, material 093-Missing part 099-Other 117-Deteriorated 120-Chafed 127-Adjustment improper 148-Eroded 170-Corroded 175-Clearance over max. 214-Grooved 226-Excessive play 230-Dirty 231-Elongated 239-Improper fit 259-Oversize 275-Undersize 315-RPM fluctuating 346-Misaligned 360-Intermittent operation 381-Leaking 440-Old age 660-Stripped 680-Unstable 701-Warped 722-Weld cracked or broken 730-Loose 750-Missing 771-Scale excessive 780-Bent 900-Burned 910-Chipped 928-Pelling 935-Scored 962-Low power	004-Low GM or emission 007-Arced, arcing 015-Broken glass 050-Blistered 051-Failed to tune 088-Low gain 091-Low sensitivity 116-Cut 160-Contacts, connections defective 169-Voltage incorrect 196-Shorted or grounded 225-Manufacturer's defect 276-Weak 300-Grounded 428-Incorrect reading 450-Open 472-Fuze blown 649-Sweep malfunction 665-Terminals reversed 692-Video faulty 700-Weak electrically 700-Weak electrically 720-Brush failure 748-Frequency erratic 819-Contacts do not open close properly 884-Lead or terminal broken 947-Torn 978-Wall thickness not to specification 984-Low specific gravity 991-Salinity too high 992-Lost at sea

Table B-14. STEAM TURBINES: HOW MALFUNCTION CODES

Nomenclature	How-Malfunction Codes					
and Equipment I.D. Code	Failure	Corrective Maintenance	No Possible Fit			
Turbines, Steam	008-Noisy	000-No malfunction*	004-Low GM or emissio			
APO1-Turbine,	021-Overload	020-Worn excessively	007-Arcing, arced			
SSTG Set	023-Blown	054-Faulty part,	015-Broken glass			
ZH04-Turbine,	068-Inoperative	material	050-Blistered			
Main Circulating	070-Broken	093-Missing part	051-Failed to tune			
Pump	117-Deteriorated	099-Other	080-Burned out			
ZQ10-Turbine,	127-Adjustment improper	148-Eroded	088-Low gain			
Main Condensate	135-Binding	161-Output incorrect	091-Low sensitivity			
Pump	170-Corroded	175-Clearance over	116-Cut			
ZO12-Turbine,	214-Grooved	max.	120-Chafed			
Main Feed Booster	226-Excessive play	180-Clogged	160-Contacts, connec-			
Pump	231-Elongated	185-Contaminated	tions defective			
ZO13-Turbine,	233-Erratic	190-Cracked	169-Voltage			
Main Feed Pump	242-Failed to	230-Dirty	196-Shorted or			
A Carrier of the Control	operate	235-Dry	grounded			
Dealer Plantings	270-Frozen	239-Improper fit	225-Manufacturer's			
	315-RPM fluctuating	255-No output	defect			
	360-Intermittent	259-Oversize	276-Weak			
The second second second	operation	275-Undersize	300-Grounded			
	370-Jammed	346-Misaligned	428-Incorrect reading			
	374-Internal failure	381-Leaking	450-Open			
	439-Plugged	440-01d age	472-Fuze blown			
The second second second second	458-Out of balance	660-Stripped	649-Sweep malfunction			
	462-Output too low	730-Loose	665-Terminals reverse			
	464-Overspeed	771-Scale excessive	692-Video faulty			
ALC: THE COLUMN	512-Split	935-Scored	693-Audio faulty			
	524-Pressure too low	978-Wall thickness not	700-Weak electrically			
	576/476-Ruptured	to specification	720-Brush failure			
CLEATER IN Association	585-Sheared		748-Frequency erratic			
Trace and ok seems	680-Unstable	Laboratory and the same of the	750-Missing			
	690-Vibration excessive	TARE INCOMESSES ON SE	819-Contacts do not			
STATE OF THE PARTY	701-Warped	Grand Company of the	open/close			
	710-Bearing failure		properly			
	722-Weld cracked or	Exercise Control of the Control	884-Lead or terminal			
	broken		broken			
	780-Bent		900-Burned			
	910-Chipped		928-Pelling			
	962-Low power		947-Torn			
			984-Low specific			
			gravity			
			991-Salinity too high			
			992-Lost at sea			

*Required here for computer-program consistency.

APPENDIX C

EQUIPMENTS WITH OUTLIER INDICES EXCLUDED FROM GENERIC GROUPS

The following CIDs represent the equipments that were excluded from analysis in generic groups according to the procedure for determining outliers described in Volume I, Chapter Seven, Section 7.2:

CID		Reason for Rejection
080100014	-	MTBCM too high
174340361	<u>-</u>	MTBCM too high
325000091	1	MTBCM too high
530920006	<u>-</u>	MTBCM too high
760200133	<u> </u>	MTBCM too high
760200162		MTBCM too high

APPENDIX D

STEAMING HOUR SUMMARY FOR THE PERIOD 1 JULY 1967 THROUGH 30 JUNE 1969

BEST_AVAILABLE COPY

SUMMARY OF STEAMING HOURS FOR THE PERIOD
1 JULY 67 TO 30 JUNE 69

### HULL NUMBER UIC UNDERWAY NOT UNDERWAY IRON AF 52 01591 5008 7969 4567 AF 61 02401 7561 5510 4473 LSD 28 03128 4819 4751 7974 LSD 29 03129 3752 7988 5804 LSD 30 03130 4581 6361 6602 LSD 31 03131 5022 5436 7086 LSD 32 03132 3773 4934 8837 LSD 33 03133 8290 4956 4298 LSD 34 03134 53770 7710 4664 LSD 35 03135 7922 3251 6371 CVA 61 03361 10465 5104 1975 CVA 62 03362 6276 6685 4583 CVA 63 03363 9223 6084 2237 CVA 64 03364 9855 4868 2821 CVA 66 03366 7514 4390 4996 DD 946 04662 4986 3031 9527 DD 946 04666 7353 3745 6446 DD 950 04666 7353 3745 6446 DD 951 04667 5702 3333 8509 DDG 2 04668 7154 6190 4200 DDG 5 04671 5594 5563 6387 DDG 6 04672 6885 4981 5678 DDG 7 04673 6556 6118 4870 DDG 9 04674 8636 4687 4221 DDG 10 04674 8636 5102 4182 DDG 11 04677 6143 42285 7116 DDG 12 04683 6591 4990 5993 DDG 15 04681 5591 4990 5993 DDG 16 04682 6478 5713 5258 DDG 17 04683 6633 6661 4250 DDG 18 04674 8626 5712 5431 4221 DDG 19 04685 7031 5717 4796 DDG 20 04686 8599 5502 3483 DDG 10 04687 7581 7674 5297 5173 DDG 12 04687 7581 7777 519 DDG 15 04681 5591 4990 5993 DDG 16 04682 6478 5711 5993 DDG 17 04683 6633 6661 4250 DDG 18 04684 7074 5297 5173 DDG 20 04686 8599 5502 3483 DDG 19 04685 7031 5717 4796 DDG 20 04686 8599 5502 3483 DDG 10 04687 7581 7045 5116 68 DDG 24 04687 7581 7047 5297 5173 DDG 25 04698 5733 2003 9808 DEG 2 04693 5994 915 10675 DEG 4 04695 4765 1191 68 AS 31 04699 2097 13085 2362 DEG 1 04695 4765 1191 68 AS 32 04696 1264 13207 3073 AS 33 04697 285 17191 68 AS 34 04720 977 15197 1370 AD 105 04805 8062 4372 5110 AD 105 04805 8062 4375 3344 AD 109 04809 5190 6909 5445	SHIP	TYPE/		STEAMING HRS	STEAMING HRS	COLD
AF 52			UIC			
AF 61 02401 7561 5510 4473 LSD 28 03128 4819 4751 7974 LSD 29 03129 3752 7988 5804 LSD 30 03130 4581 6361 6602 LSD 31 03131 5022 5436 7086 LSD 32 03132 3773 4934 8837 LSD 33 03133 8290 4956 4298 LSD 34 03134 5370 7710 4464 LSD 35 03135 7922 3251 6371 CVA 01 03361 10465 5104 1975 CVA 02 03362 6276 6685 4583 CVA 63 03364 9855 4868 2821 CVA 64 03364 9855 4868 2821 CVA 65 03366 7514 4390 4896 DD 946 04662 4986 3031 9527 DD 948 04604 6348 3577 7619 DD 950 04606 7353 3745 6446 DD 951 04607 5702 3333 8509 DG 2 04668 7154 6190 4200 DG 5 04671 5594 5563 6387 DG 6 04672 6885 4981 667 DG 7 04673 6556 6118 4870 DG 8 04674 8636 4687 4221 DG 9 0 4675 5116 5326 7102 DG 11 04677 6143 4285 7116 DG 12 04678 8260 5102 4182 DG 13 04677 6143 4285 7116 DG 14 04680 7792 5431 4321 DG 15 04681 6591 4990 5963 DG 17 04683 6633 6631 7749 DG 20 04686 8559 5502 3483 DG 17 04683 6633 6661 4250 DG 18 04687 7581 7792 5431 4321 DG 19 04687 7581 7792 5431 4321 DG 20 04686 8559 5502 3483 DG 17 04683 6633 6661 4250 DG 21 04687 7581 7794 5297 5173 DG 22 04686 8559 5502 3483 DG 21 04687 7581 7795 502 3483 DG 22 04686 8559 5502 3483 DG 23 04696 1264 13207 3073 AS 33 04697 2855 17191 68 DE 5 04698 5314 1398 10088 AS 34 04720 977 15197 1370 AD 105 04806 6754 4723 6067 AD 107 04680 6754 4723 6067 AD 107 04680 6335 7875 3334						
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LSD 30 03130 4581 6361 6602 LSD 31 03131 5022 5436 7086 LSD 32 03132 3773 4934 8837 LSD 33 03133 8290 4956 4298 LSD 34 03134 5370 7710 4464 LSD 35 03135 7922 3251 6371 CVA 01 03361 10465 5104 1975 CVA 02 03362 6276 6685 4583 CVA 63 03363 9223 6084 2237 CVA 04 03364 9855 4868 2821 CVA 64 03366 7514 4390 4896 DD 946 04662 4986 3031 9527 DD 948 04664 4986 3051 9527 DD 950 04666 7353 3745 6446 DD 951 04667 57C2 3333 8509 DDG 5 04671 5594 5563 6387 DDG 6 04672 6885 4981 5678 DDG 6 04672 6885 4981 5678 DDG 7 04673 6556 6118 4870 DDG 8 04674 8636 4687 4221 DDG 9 04575 5116 5326 7102 DDG 10 0468 579 5293 4923 7328 DDG 11 04677 6143 4285 7116 DDG 12 04688 7792 5431 4321 DDG 13 04679 5293 4923 7328 DDG 14 04680 7792 5431 4321 DDG 15 04681 5591 4990 5963 DDG 16 04682 6478 5713 5353 DDG 17 04683 6633 6661 4250 DDG 19 04685 7031 5717 4796 DDG 20 04686 8559 5502 3483 DDG 19 04687 7581 7074 5297 5173 DDG 19 04687 7581 7074 5297 5173 DDG 19 04687 7581 7074 5297 5173 DDG 19 04689 2097 13085 2362 DDG 14 04689 2097 13085 2362 DDG 24 04691 5954 5808 4782 DEG 2 04693 5954 915 10675 DEG 4 04695 7031 15197 1370 AS 33 04697 285 17191 68 AS 31 04689 2097 15197 1370 AD 105 04805 8062 4372 5110 AD 105 04806 6754 4723 6067 AD 106 04806 6754 4737 3869 AD 108 04808 6335 7875 3334	LSD	28	03128	4819	4751	
LSD 31		29	03129	3752	7988	5804
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CVA						
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DDG 6 04672 6885 4981 5678 DDG 7 04673 6556 6118 4870 DDG 8 04674 8636 4687 4221 DDG 9 04675 5116 5326 7102 DDG 11 04677 6143 4285 7116 DDG 12 04678 8260 5102 4182 DDG 13 04679 5293 4923 7328 DDG 14 04680 7792 5431 4321 DDG 15 04681 6591 4990 5963 DDG 16 04682 6478 5713 5353 DDG 17 04683 6633 6661 4250 DDG 18 04684 7074 5297 5173 DDG 19 04685 7031 5717 4796 DDG 20 04686 8559 5502 3483 DDG 21 04687 7581 7045 2918 AS 31 04689 2097 13085 2362 DDG 24 04691 6954 5808 4782 DEG 1 04692 5733 2003 9808 DEG 2 04693 5954 915 10675 DEG 4 04695 4765 1093 11686 AS 32 04696 1264 13207 3073 AS 33 04697 285 17191 68 DEG 5 04698 5314 1398 10088 AS 34 04720 977 15197 1370 AD 105 04805 8062 4372 5110 AD 106 04806 6754 4723 6067 AD 107 04607 8938 4737 3869 AD 108 04808 6335 7875 3334	DDG	2		7154	6190	4200
DDG 7 04673 6556 6118 4870 DDG 8 04674 8636 4687 4221 DDG 9 04675 5116 5326 7102 DDG 11 04677 6143 4285 7116 DDG 12 04678 8260 5102 4182 DDG 13 04679 5293 4923 7328 DDG 14 04680 7792 5431 4321 DDG 15 04681 6591 4990 5963 DDG 16 04682 6478 5713 5353 DDG 17 04683 b633 6661 4250 DDG 18 04684 7074 5297 5173 DDG 18 04684 7074 5297 5173 DDG 19 04685 7031 5717 4796 DDG 20 04686 8559 550		5	04671	5594		
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DEG 1 04692 5733 2003 9808 DEG 2 04693 5954 915 10675 DEG 4 04695 4765 1093 11686 AS 32 04696 1264 13207 3073 AS 33 04697 285 17191 68 DEG 5 04698 5314 1398 10088 AS 34 04720 977 15197 1370 AO 105 04805 8062 4372 5110 AO 106 04806 6754 4723 6067 AO 107 04807 8938 4737 3869 AO 108 04808 6335 7875 3334			04689	2097		
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AO 106 04806 6754 4723 6067 AO 107 04807 8938 4737 3869 AO 108 04808 6335 7875 3334						
AD 107 04637 8938 4737 3869 AD 108 04808 6335 7875 3334						
AO 108 04808 6335 7875 3334			RECORDER TO SECURIOR			
AD 109 04809 5190 6909 5445	AO	108			7875	
	AO	109	04809	5190	6909	5445

SHIP TYPE		STEAMING HRS	STEAMING HRS	COLD
HULL NUMBER	UIC	UNDERWAY	NOT UNDERWAY	IRON
HOLL HOUSEK	010	ONDERWAT	NOT ONDEXMAI	1 1011
AO 97	04847	6574	7494	3476
AO 100	04850	5112	6616	5816
SSN 588	05051	7604	689	9251
SSN 594	05057	5936	322	10286
SSBN 598	05136	11441	788	5315
SSBN 599	05107	12870	629	4045
SSBN 600	05108	8965	833	7746
SSBN 601	05109	12344	422	4778
SSBN 602	0511C	11725	619	5200
SSN 604	05112	7970	464	9110
SSN 605	05113	4741	554	12249
SSN 606	05114	6304	733	10507
SSBN 608	05116	9851	740	6953
SSBN 609	05117	10098	967	6479
SSN 579	05598	7568	700	9276
SSN 585	05606	6252	559	10733
SSBN 628	05702	12241	847	4456
SSBN 629	05703	11926	907	4711
SSBN 630	05704	12606	384	4554
SSBN 631	05705	13124	555	3865
SSBN 632	05706	11933	685	4926
SSBN 633	05707	12596	420	4528
SSBN 634	05708	12495	478	4571
SSBN 635	05709	12014	600	4930
SSBN 636	05710	13393	421	3730
SSBN 640	05711	12731	661	4152
SSBN 641	05712	11674	501	5369
SSBN 642	05713	12083	633	4828
SSBN 643	05714	12599	1072	3873
SSBN 644	05715	13161	340	4043
SSBN 645	05716	12512	702	4330
SSBN 654	05717	11267	313	5964
SSBN 655	05718	12416	575	4553
SSBN 656	05719	12694	440	4410
SSBN 657	05720	12649	581	4314
SSBN 658	05721	13027	412	4105
SSBN 659	05722	11 420	519	5605
AFS 1	05831	6972	7156	3416
AFS 3	05834	6533	6740	4271
AO 143	05903	4976	5733	6835
AO 145	05905	7718	4976	4850
AO 146	05906		4779	6311
AO 147	05907	5628	7538	4378
AD 148	05908	8459		3608
ATF 67	07067		2228	9010
ATF 72	07072		5927	7832
ATF 75	07075		2502	8102
ATF 76	07076		6400	5082
ATF 84	07084		1215	9680
ATF 85	07085	5508	4136	7900

9142	TYPE/		STEAMING HRS	STEAMING HRS	COLD
HULL	NUMBER	1110	UNDERWAY		
HULL	NUMBER	nic	UNDERWAT	. NOT UNDERWAY	IRON
ATF	86	07686	7222	1438	8884
ATF	91	07091	3606	5399	8539
ATF	92	07092	7305	930	9309
ATF	96	07096	5506	3657	7381
ATF	98	07098	4819	4518	8207
ATF	100	07100	6788	110	10646
ATF	101	07101	6750	1205	9589
ATF	103	07103	3974	7353	6217
ATF	105	07105	5440	6508	5596
ATF	107	07107	7155	2861	7528
ATF	114	07114	4499	5598	7447
ATF	156	07156	5821	203	11520
ATF	159	07159	4003	7488	6053
ATF	161	07161	4120	8607	4811
ATF	162	07102	4105	11144	2295
ATF	163	07153	4358	6004	7173
LPD	4104	07170	3819	7962	5763
LPD	2	07171	5185	4762	7597
LPD	3	07172	3695	8652	5197
LPD	4	07175	3105	9074	5365
LPD	5	07176	6151	4289	7104
LPD	6	07177	8489	3219	5836
LPD	7	07178	3756	5693	8095
LPH	2	07350	7658	4558	5328
LPH	3	07351	8322	3668	5554
LPH	7	07352	4511	7824	5209
MSO	437	07967	6681	1106	9757
MSO	438	07968	7104	1211	9229
MSD	462	07992	3549	954	13041
MSD	466	07996	5534	682	11328
MSO	488	08146	8534	216	8794
MSO	490	08148	7319	1387	8838
MSO	508	08156	4581	953	12010
MSD	521	08162	4007	1128	12409
AE	25 23	08301	7361 5191	6905	3578
AE	21	08821	4795	8817 7485	2792 5264
AE	22	08822	8813	6759	1972
MSC	198	16461	5960	6874	4710
MSC	199	16462	5236	8778	3530
MSC	205	16468	6579	96	10869
MSC	206	10409	6181	11160	203
MSC	207	16470	6305	2187	9052
MSC	208	16473	5987	11100	457
MSC	209	16474	5633	1767	10144
MSC	289	16475	6482	118	10944
MSC	290	16476	4597	5642	7305
DD	875	52175	9097	2444	6003
DD	876	52176	8701	3463	5380
DD	877	52177	6503	3161	7880

	TYPE / NUMBER	utc	STEAMING HRS UNDERWAY	STEAMING HRS	COLD
DD	878	52178	3931	5539	8074
DD	880	52180	5442	5031	7071
DD	881	52181	8432	4555	4557
DD	882	52182	6782	3152	7610
DD	883	52183	5514	4357	7673
DD	884	52184	6831	4688	6025
DD	885	52185	6803	4536	6205
DD	886	52186	9556	3173	4815
00	888	52188	6681	4422	6441
00	889	52189	6285	5532	5727
DDG		52196	6573	6542	4429
00	937	52197	7362	3515	6667
DD	940	52199	7178	2824 3402	7542
DD	941	52200 52201	8255 5121	5737	6686
DLG		52233	6049	4635	6860
DLG		52234	8325	4622	4597
DLG		52235	6498	5879	5167
DLG		52236	6589	5842	5113
DLG		52685	7570	5623	4351
DLG		52689	7087	5493	4964
DLG		52690	7388	7785	2371
DLG		52691	5698	6398	5448
DLG		52693	5176	6422	5946
DLG	23	52698	5586	8274	3684
DLG	28	52733	8309	6007	3228
DLG		52704	6759	6693	4092
DLG		52705	6306	7885	3353
DLG		52706	8719	6404	2421
DLG		52707	8234	5647	3663
DLG		52708	7874	5424	4246
DE	1021	54021	4593	2138	10813
DE	1022	54022	4544 4381	2588 2355	10412
DE	1027	54027 54028	4318	3357	9869
DE	1029	54029	4370	2478	10696
DE	1033	54031	5694	3612	8238
DE	1034	54034	4337	567	12640
DE	1045	54041	6904	3440	7200
LST		58032	4091	8871	4582
LST		58073	5373	1443	10728
LST		58076	5979	2064	9501
LST		58077	6286	4483	6775
LST		58082	6822	4216	6506
LST		58084	5976	3220	8348
LST		58122	7336	2722	7486
LST		58123	6389	4543	6612
LSI		58126	5013	2268	10263
LSI		58141	5838	979 1362	10727
LSI	1146	58146	5367	1302	10013

Townson .

SHIP	TYPE/		STEAMING HRS	STEAMING HRS	COLD
HULL	NUMBER	UIC	UNDERWAY	NOT UNDERWAY	IRON
LST	1150	58150	7040	1903	8541
LST	1156	58156	4056	1399	12089
LST	1157	58157	7441	1572	8531
LST	1159	58159	4769	4352	8423
LST	1161	58161	4563	3213	9768
LST	1162	58102	3920	2706	
LST	1163	58163	4799	4923	10918
LST	1166	58166	6600	4722	7822
LST	1167	58167	53 97	6039	6222
LST	1168	58168	6180		6108
LST	1169	58169	6053	2393	8971
LST	1170	58170	6685	5875	5616
LST	1173	58173		4926	5933
LST	1174		4769	2315	10460
LST		58174	4231	5071	8242
	1175	58175	4165	4283	9096
LST	1176	58176	4567	4311	8606
AFS	2	74025	6976	9009	1559